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History of Science, Philosophy and Culture in Indian Civilization

General Editor D. P. Chattopadhyaya

Volume VIII Part 1

Economic History of Medieval India, 1200–1500

IRFAN HABIB

PHISPC

Centre for Studies in Civilizations

Economic History of Medieval India, 1200–1500

Publications in PHISPC–CONSSAVY Series

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General Editor & Project Director D.P. Chattopadhyaya

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IRFAN HABIB
with contributions from
Najaf Haider, Iqtidar Alam Khan, Shireen Moosvi and Pushpa Prasad

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Preface

It can be argued that the economic history of India from the thirteenth to the fifteenth century stands in need of a comprehensive study of some length, since no full-scale study exists, despite many works on different aspects of the economy and society of the time or on some of the regions. This work attempts to fill this gap, partly building on previous work, partly on fresh research into sources. It was intended to be a collective work, but as matters turned out, the bulk of it had to be written by the undersigned, with only five chapters out of some 22 supplied by four of the original projected contributors. Contributions by hands other than those of the main author are Chapters 2, 14, 15, 16 and 17. These contributions have, I am sure, added much to the value of this book and I am most grateful to their authors.

The plan of the work is a simple one. Part One in its two chapters studies two regional economies, one earlier (the Ghaznavid Empire, eleventh and twelfth centuries) and the other partly contemporary (Chaulukya-ruled Gujarat), to set the context for the emergence of the economy of the Delhi Sultanate.

Part Two occupies the major portion of the book. In its fourteen chapters, the various aspects of the economy of the main period of the Delhi Sultanate (thirteenth and fourteenth centuries) are studied. The time limits are not too rigorously followed, and economic conditions in the fifteenth century, especially in the core region of the Delhi Sultanate, are also treated here. This is also the case with themes such as navigation and external trade and coinage.

Part Three is concerned with the fifteenth century. One chapter (chapter 17) contains a discussion of the possible impact on Indian economy of the political disintegration of the period. Since the Vijayanagara Empire was formed in this period (1346–1542)—a fairly well-defined region about which our knowledge is considerable—a special study of its economy is attempted in Part Four, containing five chapters.

It is hoped that the reader of this book would find that the body of information collected here contains much that has been newly extracted from the sources, and so enables one to treat aspects not considered in depth earlier. At the same time, the limitations of the information are also obvious, and no effort is made to hide the fact that on very crucial matters our sources are quite deficient. This means that the room for doubt and debate remains large; and this can be partly seen, perhaps, in the differences of approach and inferences here and there among the main author and his collaborators. No effort has been made to synthesize the treatment, since it would be wrong to rule out the consideration of alternative hypotheses when the evidence can be read in more than one way—or does not exist at all.

Some technical matters need to be clarified. As far as possible the system of transliteration adopted in Steingass's *Persian–English Dictionary* has been followed for Arabic and Persian words. For Sanskrit/Prakrit and Dravidian languages, the system followed in the journal *Epigraphia Indica* has been adopted, but 'sh' generally does duty for 'ś', and 'ri' for 'ṛ'.

Irfan Habib

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General Introduction

I

It is understandable that man, shaped by Nature, would like to know Nature. The human ways of knowing Nature are evidently diverse—theoretical and practical, scientific and technological, artistic and spiritual. This diversity has on scrutiny been found to be neither exhaustive nor exclusive. The complexity of physical nature, life-world, and particularly the human mind is so enormous that it is futile to follow a single method for comprehending all the aspects of the world in which we are situated.

One need not feel bewildered by the variety and complexity of worldly phenomena. After all, we know both from traditional wisdom and our daily experience that our own nature is not quite alien to the structure of the world. Positively speaking, the elements and forces out there in the world are also present in our body-mind complex, enabling us to adjust ourselves to our environment. It is not only the natural conditions, but also the social conditions of life that have instructive similarities between them. This is not to underrate in any way the difference between human ways of life all over the world, which is partly due to variation in climatic conditions and partly due to the distinctness of production-related tradition, history and culture.

Three broad approaches are discernible in works on the historiography of civilization, comprising science and technology, art and architecture, social sciences and institutions. One group of writers is primarily interested in discovering the general laws that govern all civilizations spread over different continents. They tend to underplay what they call the noisy local events of the external world and peculiarities of different languages, literatures and histories. Their accent is on the unity of Nature, the unity of science and the unity of mankind. The second group of writers, unlike the generalist or transcendentalist ones, attaches primary importance to the distinctiveness of every culture. To these writers, human freedom and creativity are extremely important and basic in character. Social institutions and the cultural articulations of human consciousness, they argue, are bound to be expressive of the concerned people's consciousness. By implication, they tend to reject concepts like archetypal consciousness, the universal mind and providential history. There is a third group of writers who offer a composite picture of civilizations, drawing elements both from their local and common characteristics. Every culture has its local roots and peculiarities. At the same time, it is pointed out that due to demographic migration and immigration over the centuries, an element of compositeness emerges in almost every culture. When, due to a natural calamity or political exigencies, people move from one part of the world to another, they carry with them—among other things—their language, cultural inheritance and their ways of living.

In light of the above facts, it is not at all surprising that comparative anthropologists and philologists are intrigued by the striking similarity between different language families and the rites, rituals and myths of different peoples. Speculative philosophers of history,

heavily relying on the findings of epigraphy, ethnography, archaeology and theology, try to show in very general terms that the particulars and universals of culture are 'essentially' or 'secretly' interrelated. Spiritual aspects of culture like dance and music, beliefs pertaining to life, death and duties, are on analysis found to be mediated by the material forms of life, like weather forecasting, food production, urbanization and invention of the script. The transition from an oral culture to a written one was made possible because of the mastery over symbols and rules of measurement. Speech precedes grammar, poetry prosody. All these show how the 'matters' and 'forms' of life are so subtly interwoven.

II

The PHISPC publications on History of Science, Philosophy and Culture in Indian Civilization, in spite of their unitary appearance, do recognize the differences between the areas of material civilization and those of ideational culture. It is not the work of a single author. Nor is it being executed by a group of thinkers and writers who are methodologically uniform or ideologically identical in their commitments. In conceiving the Project we have interacted with, and been influenced by, the writings and views of many Indian and non-Indian thinkers.

The attempted unity of this Project lies in its aim and inspiration. We have in India many scholarly works written by Indians on different aspects of our civilization and culture. Right from the pre-Christian era to our own time, India has drawn the attention of various countries of Asia, Europe and Africa. Some of these writings are objective and informative and many others are based on insufficient information and hearsay—and therefore not quite reliable—but they have their own value. Quality and viewpoints keep on changing not only because of the adequacy or inadequacy of evidence, but also—and perhaps more so—because of the biases, prejudices and religious and political convictions of the writers.

Besides, it is to be remembered that history, like Nature, is not an open book to be read alike by all. The past is mainly enclosed and only partially disclosed. History is, therefore, partly objective or 'real' and largely a matter of construction. This is one of the reasons why some historians themselves think that history is a form of literature or art. However, it does not mean that historical construction is 'anarchic' and arbitrary. Imagination certainly plays an important role in it.

The character of history is basically dependent upon the *questions* which the historian raises and wants to understand or answer in terms of the ideas and actions of human beings in the past ages. In a way, history is somewhat like the natural sciences in that it is engaged in answering questions and exploring relationships of cause and effect between events and developments across time. While in the natural sciences the scientist poses questions about nature in the form of hypotheses, expecting to elicit authoritative answers to such questions, the historian studies the past, partly for the sake of understanding it for its own sake and partly for the light which the past throws upon the present, and the possibilities it opens up for moulding the future. Of course, the difference between the two approaches must not be lost sight of. The scientist is primarily interested in discovering laws and framing theories, in terms of which different events and processes can be connected and anticipated. His interest in the conditions or circumstances attending the concerned events is secondary. Therefore, scientific laws turn out to be primarily abstract and easily expressible in terms of mathematical language.

In contrast, the historian's main interest centres around *specific* events, human ideas and actions, not *general* laws. So the historian, unlike the scientist, is obliged to pay primary attention to the circumstances of the events he wants to study. Consequently, history, like most other humanistic disciplines, is concrete and particularist. This is not to deny the obvious truth that historical events and processes consisting of human ideas and actions show some trend or other and weave some pattern or another. If these trends and patterns were not there at all in history, the study of history as a branch of knowledge would not have been profitable or instructive. But one must recognize that historical trends and patterns, unlike scientific laws and theories, are not general or purported to be universal in their scope.

III

The aim of this Project is to discover the main aspects of Indian culture and present them in an interrelated way. Since our culture has influenced, and been influenced by, the neighbouring cultures of West Asia, Central Asia, East Asia and Southeast Asia, attempts have been made here to trace and study these influences in their mutuality. It is well-known that during the last three centuries, European presence in India, both political and cultural, has been widespread. In many volumes of the Project, considerable attention has been paid to Europe and through Europe to other parts of the world. For the purpose of a comprehensive cultural study of India, the existing political boundaries of the South Asia of today are more of a hindrance than a help. Cultures, like languages, often transcend the bounds of changing political territories.

If the inconstant political geography is not a reliable help to an understanding of the layered structure and the spread of culture, a somewhat comparable problem is encountered in the area of historical periodization. Periodization or segmenting time is a very tricky affair. When exactly one period ends and another begins is not precisely ascertainable. The periods of history designated as ancient, medieval and modern are purely conventional and merely heuristic in character. The varying scopes of history—local, national, and continental or universal—somewhat like the periods of history, are unavoidably fuzzy and shifting. Amidst all these difficulties, volume-wise details have been planned and worked out by the editors in consultation with the Project Director and the General Editor. I believe that the editors of different volumes have also profited from the reactions and suggestions of the contributors of individual chapters in planning the volumes.

Another aspect of Indian history which the volume editors and contributors of the Project have carefully dealt with is the distinction and relation between civilization and culture. The material conditions which substantially shaped Indian civilization have been discussed in detail. From agriculture and industry to metallurgy and technology, from physics and chemical practices to the life sciences and different systems of medicines—all the branches of knowledge and skill which directly affect human life—form the heart of this Project. Since the periods covered by the PHISPC are extensive—prehistory, proto-history, early history, medieval history and modern history of India—we do not claim to have gone into all the relevant material conditions of human life. We had to be selective. Therefore, one should not be surprised if one finds that only some material aspects of Indian civilization have received our pointed attention, while the rest have been dealt with in principle or only alluded to.

One of the main aims of the Project has been to spell out the first principles of the philosophy of different schools, both pro-Vedic and anti-Vedic. The basic ideas of Buddhism, Jainism and Islam have been given their due importance. The special position accorded to philosophy is to be understood partly in terms of its proclaimed unifying character and partly to be explained in terms of the fact that different philosophical systems represent alternative worldviews, cultural perspectives, their mutual assimilation and conflicts between them.

Most of the volume editors, and at their instance the concerned contributors, have followed a middle path between the extremes of narrativism and theoreticism. The underlying idea has been this: if, in the process of working out a comprehensive Project like this, every contributor attempts to narrate all those interesting things that he has in the back of his mind, the enterprise is likely to prove unmanageable. If, on the other hand, particular details are consciously forced into a fixed mould or presupposed theoretical structure, the details lose their particularity and interesting character. Therefore, depending on the nature of the problem of discourse, most of the writers have tried to reconcile in their presentation the specificity of narrativism and the generality of theoretical orientation. This is a conscious editorial decision. This is because in the absence of a theory, however inarticulate it may be, factual details tend to fall apart. Spiritual network or theoretical orientation makes historical details not only meaningful, but also interesting and enjoyable.

Another editorial decision which deserves to be spelt out is the necessity of avoiding duplication of the same theme in different volumes or even in the same volume. Certainly this Project is not an assortment of several volumes. Nor is any volume intended to be a miscellany. This Project has been designed with a definite end in view and has a structure of its own. The character of the structure has admittedly been influenced by the variety of the themes accommodated within it. Again it must be understood that the complexity of the structure is rooted in the aimed integrality of the Project itself.

IV

Long and in-depth editorial discussions have led us to several unanimous conclusions. First, our Project is going to be *unique*, unrivalled and discursive in its attempt to integrate different forms of science, technology, philosophy and culture. Its comprehensive scope, continuous character and accent on culture distinguish it from the works of such Indian authors as P.C. Ray, B.N. Seal, Binoy Kumar Sarkar and S.N. Sen, and also from such Euro-American writers as Lynn Thorndike, George Sarton and Joseph Needham. Indeed, it would be no exaggeration to suggest that it is for the first time that an endeavour of so comprehensive a character, in its exploration of the social, philosophical and cultural characteristics of a distinctive world civilization—that of India—has been attempted in the domain of scholarship.

Second, we try to show the linkages between different branches of learning as different modes of experience in an *organic* manner and without resorting to a kind of reductionism, materialistic or spiritualistic. The internal dialectics of organicism without reductionism allows fuzziness, discontinuity and discreteness within limits.

Third, positively speaking, different modes of human experience—scientific, artistic, etc.—have their own individuality, but not necessarily autonomy. Since all these modes are

modifications and articulations of the *human* experience, these are bound to have between them some finely graded commonness. At the same time, it has been recognized that reflection on different areas of experience and investigation brings to light new insights and findings. Growth of knowledge requires humans in general and scholars in particular to identify the distinctness of different branches of learning.

Fourth, to follow simultaneously the twin principles of (*a*) individuality of human experience as a whole, and (*b*) individuality of diverse disciplines, is not at all an easy task. Overlapping of themes and duplication of the terms of discourse become unavoidable at times. For example, in the context of *Dharmaśāstra*, the writer is bound to discuss the concept of value. The same concept also figures in economic discourse and occurs in a discussion on fine arts. The conscious editorial decision has been that, while duplication should be kept to its minimum, for the sake of the intended clarity of the themes under discussion their reiteration must not be avoided at high intellectual cost.

Fifth, the scholars working on the Project are drawn from widely different disciplines. They have brought to our notice an important fact that has clear relevance to our work. Many of our contemporary disciplines like economics and sociology did not exist—at least not in their present form—just two centuries or so ago. For example, before the middle of the nineteenth century, sociology as a distinct branch of knowledge was unknown. The term is said to have been coined first by the French philosopher Auguste Comte in 1838. Obviously, this does not mean that the issues discussed in sociology were not there. Similarly, Adam Smith's (1723–90) famous work, *The Wealth of Nations*, is often referred to as the first authoritative statement of the principles of (what we now call) economics. Interestingly enough, the author was equally interested in ethics and jurisprudence. It is clear from history that the nature and scope of different disciplines undergo change, at times radically, over time. For example, in ancient India *arthaśāstra* did not mean the science of economics as understood today. Besides the principles of economics, the *Arthaśāstra* of Kautilya discusses at length those of governance, diplomacy and military science.

Sixth, this brings us to the next editorial policy followed in the Project. We have tried to remain very conscious of what may be called indeterminacy or inexactness of translation. When a word or expression in one language is translated into another, some loss of meaning or exactitude seems to be unavoidable. This is true not only in bilingual relations like Sanskrit-English and Sanskrit-Arabic, but also in those of Hindi-Tamil and Hindi-Bengali. In recognition of the importance of the language-bound and context-relative character of meaning, we have solicited from many learned scholars contributions written in vernacular languages. In order to minimize the negative effect of semantic inexactitude, we have solicited translational help of those bilingual scholars who know both English and the concerned vernacular language, whether it be Hindi, Tamil, Telugu, Bengali or Marathi.

Finally, perhaps the place of technology as a branch of knowledge in the composite universe of science and art merits some elucidation. Technology has been perceived in very many ways, for example, as autonomous, as 'standing reserve', as liberating or broadening, and as alienating or estranging. The studies undertaken by the Project show that, in spite of its much emphasized mechanical and alienating characteristics, technology embodies a very useful mode of knowledge that is peculiar to man. The Greek root words of technology are *techne* (art) and *logos* (science). This is the basic justification of recognizing technology

as closely related to both epistemology, the discipline of valid knowledge, and axiology, the discipline of freedom and values. It is in this context that we are reminded of the definition of man as *homo technikos*. In Sanskrit, the word closest to *techne* is *kalā,* which means any practical art, any mechanical or fine art. In the Indian tradition, in *Śaivatantra*, for example, among the arts (*kalā*) are counted dance, drama, music, architecture, metallurgy, knowledge of dictionary, encyclopaedia and prosody. The closeness of the relation between arts and sciences, technology and other forms of knowledge are evident from these examples, and was known to the ancient people. The human quest for knowledge involves the use of both head and hand. Without mind, the body is a corpse; equally, the disembodied mind is a bare abstraction. Even for our appreciation of what is beautiful and the creation of what is valuable, we are required to exercise both our intellectual competence and physical capacity. In a manner of speaking, one might rightly affirm that our psychosomatic structure is a functional connector between what we are and what we could be, between the physical and the beyond. To suppose that there is a clear-cut distinction between the physical world and the psychosomatic one amounts to a denial of the possible emergence of higher logico-mathematical, musical, and other capacities. The very existence of aesthetic experience and creation proves that the supposed distinction is somehow overcome by what may be called the bodily self or embodied mind.

V

The ways of classification of the arts and sciences are neither universal nor permanent. In the Indian tradition, in the *Ṛgveda*, for example, *vidyā* (or sciences) are said to be four in number: (*i*) *Trayī*, the triple Veda; (*ii*) *Ānvīkṣikī*, logic and metaphysics; (*iii*) *Daṇḍa-nīti*, science of governance; and (*iv*) *Vārtta,* practical arts such as agriculture, commerce, medicine, etc. Manu speaks of a fifth *vidyā*, viz., *Ātma-vidyā*, knowledge of self or of spiritual truth. According to many others, *vidyā* has 14 divisions, viz., the four Vedas, the six *Vedāṅgas*, the *Purāṇas*, the *Mīmāṁsā*, *Nyāya*, and *Dharma* or law. At times, the four Upavedas are also recognized by some as *vidyā*. *Kalās* are said to be 33 or even 64.

In the classical tradition of India, the word *Śāstra* has at times been used as a synonym for *vidyā*. *Vidyā* denotes an instrument of teaching, a manual or a compendium of rules, or a religious or scientific treatise. The word *Śāstra* is usually found after the word referring to the subject of the book, for example, *Dharma-śāstra*, *Artha-śāstra*, *Alaṁkāra-śāstra* and *Mokṣa-śāstra*. Two other words that have frequently been used to denote different branches of knowledge are *jñāna* and *vijñāna.* While *jñāna* means knowing or knowledge, especially the higher form of it, *vijñāna* stands for the acts of distinguishing or discerning, understanding, comprehending and recognizing. It means worldly or profane knowledge as distinguished from *jñāna*, knowledge of the divine.

It must be said here that the division of knowledge is partly conventional and partly administrative or practical. It keeps changing from culture to culture, from age to age. It is difficult to claim that the distinction between *jñāna* and *vijñāna* or that between science and art is universal. It is true that even before the advent of the modern age, both in the East and in the West, two basic aspects of science had started gaining recognition. One is the *specialized character* of what we call scientific knowledge, and the other is the concept of *trained skill* which

was brought to scientific knowledge. In medieval Europe, the expression 'the seven liberal sciences' has very often been used simultaneously with 'the seven liberal arts', meaning thereby the group of studies by the *Trivium* (Grammar, Logic and Rhetoric) and *Quadrivium* (Arithmetic, Music, Geometry and Astronomy).

It may be observed here, as has already been stated earlier, that the division between different branches of knowledge, between theory and practice, was not pushed to an extreme extent in the early ages. *Praxis*, for example, was recognized as the prime *techne*. The Greek word *technologia* stood for systematic treatment, for example, of Grammar. *Praxis* is not the mere application of *theoria*, unified vision or integral outlook, but also stands for the active impetus and base of knowledge. In India, one often uses the terms *Prayukti-vidyā* and *Prayodyogika-vidyā* to emphasize the practical or applicative character of knowledge. *Prayoga* or application is both the test and the base of knowledge. Doing is the best way of knowing and learning.

That one and the same word may mean different 'things' or concepts in different cultures and thus create confusion has already been stated. Two such words which in the context of this Project under discussion deserve special mention are *dharma* and *itihāsa*. Ordinarily, *dharma* in Sanskrit-rooted languages is taken as the conceptual equivalent of the English word *religion*. But while the meaning of religion is primarily theological, that of *dharma* seems to be manifold. Literally, *dharma* stands for that which is established or that which holds people steadfastly together. Its other meanings are law, rule, usage, practice, custom, ordinance and statute. Spiritual or moral merit, virtue, righteousness and good works are also denoted by it. Further, *dharma* stands for natural qualities like burning (of fire), liquidity (of water) and fragility (of glass). Thus, one finds that the meanings of *dharma* are of many types—legal, social, moral, religious or spiritual, and even ontological or physical. All these meanings have received the due attention of writers in the relevant contexts of different volumes.

This Project, being primarily historical, has naturally paid serious attention to the different concepts of history—epic-mythic, artistic-narrative, scientific-causal, theoretical and ideological. Perhaps the first point that must be mentioned about history is that it is not a correct translation of the Sanskrit word *itihāsa*. Etymologically, it means 'that which truly happened' (*iti-ha-āsa*). But, as we know, in the Indian tradition *purāṇa* (legend, myth, tale, etc.), *gāthā* (ballad), *itivṛtta* (description of past occurrence, event, etc.), *ākhyāyikā* (short narrative) and *vaṃśa-carita* (genealogy) have been consciously accorded a very important place. Things started changing with the passage of time, and particularly after the effective presence of Islamic culture in India. Islamic historians, because of their own cultural moorings and the influence of the Semitic and Graeco-Roman cultures on them, were more particular about their facts, figures and dates than their Indian predecessors. Their focus on bringing history close to statecraft, social conditions, and the lives and teachings of religious leaders imparted a mundane character to this branch of learning. The Europeans, whose political appearance on the Indian scene became perceptible only towards the end of the eighteenth century, brought with them their own view of historiography in their cultural baggage. The impact of the Newtonian Revolution in the field of history was faithfully worked out by (among others) David Hume (1711–76) in *History of Great Britain from the Invasion of Julius Caesar to the Revolution of 1688* (6 Vols, 1754–62) and Edward Gibbon (1737–94)

in *The History of the Decline and Fall of the Roman Empire* (6 Vols, 1776–88). Their emphasis on the principles of causality, datability and continuity/linearity of historical events introduced the spirit of the scientific revolution in European historiography. The introduction of English education in India and the exposure of the country's elites to it largely account for the decline of the traditional concept of *itihāsa* and the rise of the post-Newtonian scientific historiography. Gradually, Indian writers of our own history and cultural heritage started using European concepts and categories. This is not to suggest that the impact of European historiography on Indian historians was entirely negative. On the contrary, it imparted an analytical and critical temper which motivated many Indian historians of the nineteenth century to try to discover and represent our heritage in a new way.

VI

The principles that have been followed while organizing the subjects of different volumes under this Project may be stated in this way. We have kept in view the main structures that are discernible in the decomposible composition of the world. The first structure may be described as physical and chemical. The second structure consists, broadly speaking, of biology, psychology and epistemology. The highest and most abstract structure contains many substructures within it, for example logic, mathematics and musical notes. It is well known that the substructures within each structure are interactive, that is, not isolable. The more important point to be noted in this connection is that the three basic structures of the world, viz., physico-chemical, bio-psychological, and logico-mathematical, are all simultaneously open to upward and downward causation. In other words, while the physico-chemical structure can causally influence the bio-psychological one and the latter can causally influence the most abstract logico-mathematical, the reverse process of causation is also operative in the world. In spite of its relative abstractness and durability, the logico-mathematical world has a downward causal impact on our bio-psychological and epistemological processes and products. The latter can also bring about change in the structures of the physical world and its chemical composition. Applied physics and bio-technology make the last point abundantly clear.

Many philosophers, life scientists and social scientists highlight the point that nature loves hierarchies. Herbert Simon, the economist and management scientist, speaks of four steps of the partial ordering of our world, namely (*i*) chemical substances, (*ii*) living organisms, tissues and organs, (*iii*) genes, chromosomes and DNA, and (*iv*) human beings, the social organizations, programmes and information process. All these views are in accord with the anti-reductionist character of our Project. Many biologists defend this approach by pointing out that certain characteristics of biological phenomena and processes like unpredictability, randomness, uniqueness, magnitude of stochastic perturbations, complexity and emergence cannot be reduced without recourse to physical laws.

The main subjects dealt with in different volumes of the Project are connected not only conceptually and synchronically, but also historically or diachronically. For pressing practical reasons, however, we did not aim to present the prehistorical, proto-historical and historical past of India in a continuous or chronological manner. Besides, it has been shown in the presentation of the PHISPC that the process of history is non-linear. And this process is to

be understood in terms of human praxis and an absence of general laws in history. Another point that deserves special mention is that the editorial advisors have taken a conscious decision not to make this historical Project primarily political. We felt that this area of history has always received extensive attention. Therefore, the customary discussion of dynastic rule and succession will not be prominent in this series. Instead, as said earlier, most of the available space has been given to social, scientific, philosophical, and other cultural aspects of Indian civilization.

Having stated this, it must be admitted that our departure from the conventional style of writing Indian history is not absolute. We have followed an inarticulate framework of time in organizing and presenting the results of our studies. The first volume, together with its parts, deals with the prehistorical period to A.D. 300. The next two volumes, together with their parts, deal with, among other things, the development of social and political institutions and philosophical and scientific ideas from A.D. 300 to the beginning of the eleventh century. The next period with which this Project is concerned spans the twelfth century to the early part of the eighteenth century. The last three centuries constitute the fourth period covered by this Project. However, as stated earlier, the definition of all these periods are by their very nature inexact and merely indicative.

Two other points must be mentioned before I conclude this General Introduction to the series. The history of some subjects like religion, language and literature, philosophy, science and technology cannot for obvious reasons be squeezed into the cramped space of the periodic moulds. Attempts to do so result in thematic distortion. Therefore, the reader will often see an overlap of some ideas from one period to another. I have already drawn attention to this tricky, fuzzy and misleading aspect of the periodization of history, if pressed beyond a point.

Second, strictly speaking, history knows no end. Every age rewrites its history. Every generation, beset with new issues, problems and questions, looks back to its history and reinterprets and renews its past. This shows why history is not only contemporaneous, but also looks to the future. Human life actually knows no separative wall between its past, present and future. Its cognitive enterprises, moral endeavours and practical activities are informed of the past, oriented by the present and addressed to the future. This process persists, consciously or unconsciously, wittingly or unwittingly. In the narrative of this Project, we have tried to represent this complex and fascinating story of Indian civilization.

Centre for Studies in Civilizations
New Delhi

D.P. Chattopadhyaya
General Editor

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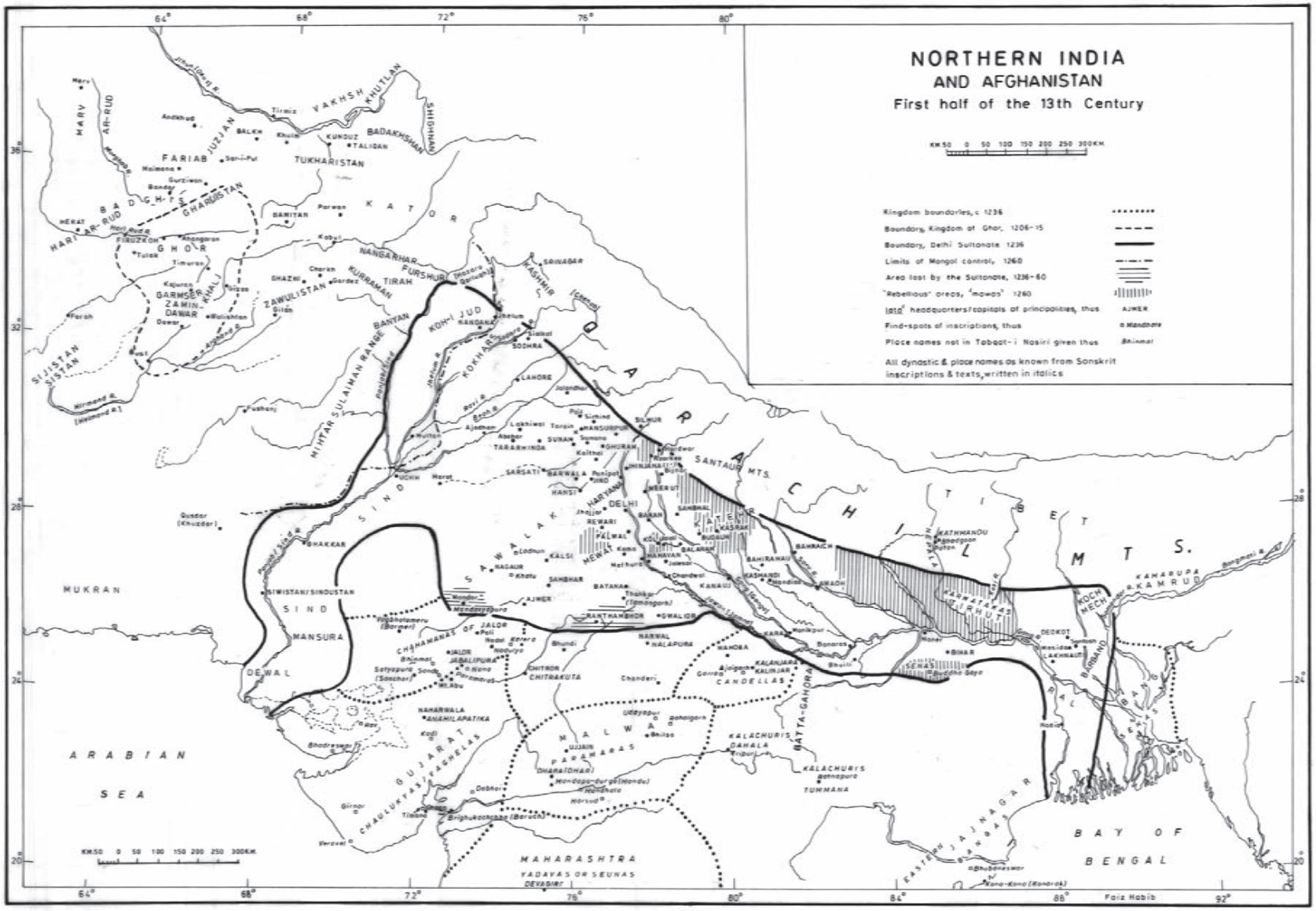
Note: The three maps used in this book are drawn by Faiz Habib, Cartographer at the Department of History, Aligarh Muslim University.

I

Antecedents: Two Regional Economies


NORTHERN INDIA
AND AFGHANISTAN
First half of the 13th Century
Kingdom boundaries, c 1236
Boundary, Kingdom of Ghor, 1206-15
Boundary, Delhi Sultanate 1236
Limits of Mongol control, 1260
Area lost by the Sultanate, 1236-60
"Rebellious" areas, 'mawas' 1260
late headquarters/capitals of principalities, thus AJMER
Find-spots of inscriptions, thus Mandhata
Place names not in Tabaqat-i Nasiri given thus Bahmai
All dynastic & place names as known from Sanskrit inscriptions & texts, written in italics
KM 50 0 50 100 150 200 250 300 KM
ARABIAN SEA
BAY OF BENGAL
MAHARASHTRA
YADAVAS OR SEUNAS
DEVAGIRI
TIBET
HIMALAYAS
SIND
MUKRAN
GUJARAT
MALWA
BUNDELKHAND
Faiz Habib

CHAPTER 1

The Economy of the Ghaznavid Empire, Eleventh and Twelfth Centuries

Irfan Habib

KHURĀSĀN

Kaikāūs, a theoretician of the kingly craft, who had been a courtier to Maḥmūd of Ghaznin's grandson Maudūd (1041–49), wrote of the wise strategy of Maḥmūd (999–1030) of employing both Turks and Hindus as his slave-guards; thereby, he says, 'he constantly overawed the Hindus by means of the Turks and the Turks by means of the Hindus'.[1] In a similar fashion, it can be said that the Ghaznavid Empire during its period of greatness, 999–1040, rested on the economic strength it obtained through its possession of two distinct geographical regions, Khurāsān (eastern Iran and much of Afghanistan) and north-western India (the Indus basin). Except for certain pockets (for example, Ghor and Kabul), Khurāsān had long been a part of the cultural and commercial world of Islam; and this was true, since the early eighth century, also of Sind and Multān; only some tracts west of the Punjab had until then remained outside the Islamic realm. It is therefore of some interest to see how the economies of Khurāsān and the Indus basin fared when brought together under a single great empire.

We are fortunate that a number of geographers writing in Arabic during the ninth and tenth centuries, notably Ibn Khurdādbih, Istakharī, Ibn Hauqal and Maqdīsī (Muqaddasī), provide us with a comprehensive picture of Khurāsān on the eve of its incorporation into the Ghaznavid Empire. These accounts are excellently synthesized in G. Le Strange's *The Lands of the Eastern Caliphate*.[2] To the works explored by Le Strange should be added the anonymous *Ḥudūdu'l 'Ālam*, written in Persian in 982 by a native of Gūzgānān, a part of Khurāsān.[3] These accounts, again, can be amplified by drawing on later sources such as Yāqūt (thirteenth century) and Mustaufī and Ibn Baṭṭūṭa (fourteenth century), but it would not, perhaps, be safe to rely on these texts for the earlier part of the eleventh century, except where they offer corroboration of earlier information.

Khurāsān in the early eleventh century was undoubtedly an important agricultural region, owing largely to human ingenuity and labour. It is a region where crops cannot be raised

solely on rainfall, since practically no part of it receives more than 25 centimetres of rainfall in a year. Use was therefore made of snow-fed streams and springs; water was drawn from elevated points into underground channels connected by wells, until it came to the surface to irrigate the fields. Such works are known as *qanāt* or *kārīz*, and are well described by early geographers. On the plains, canals were drawn from rivers, and both rivers and canals had dams and barrages built across them to provide irrigation through distributaries.[4] Such irrigation systems enabled diverse crops to be raised—corn (wheat, barley), rice, cotton, flax, vine, sesame, saffron and asafoetida are some of the crops named. The mentions of rice are particularly to be noted, because it is believed that rice was not cultivated in Iran and lands further west before Islamic times.[5]

Also noteworthy is the pursuit of sericulture in almost all parts of Khurāsān by the beginning of the eleventh century.[6] Sericulture seems to have been a recent art since it was introduced only in late Sasanian times;[7] however, our evidence shows that it was firmly established by this period.

Technological progress in agriculture is also indicated by the widespread use of horizontal (ungeared) water mills. Almost any small or medium-sized river could be described in terms of the number of mills (*āsyā*) it could drive at a single point. What signified a remarkable act of indigenous innovativeness was the construction of the world's first windmills in Sistan.[8]

Along with its agricultural zones, Khurāsān contained large tracts of highlands and low-lying steppes suitable for a pastoral economy keyed to the needs of a sedentary society. Here, as in Kaikanan (southern Sulaiman Range, above and below the Bolan Pass) and in Gharjistan (western slopes of the Koh-i Baba Range containing the valleys of the upper Murghab and its affluents), fine horses were bred;[9] and almost everywhere sheep were reared for wool.

Extensive mining was undertaken in Khurāsān, which is not surprising when one considers its mountainous terrain rich in ores. Among precious stones, balas rubies were obtained in the Pamirs, north of the Oxus near Badakhshan, and lapiz lazuli in Badakhshan itself, while turquoise was mined near Nīshāpūr, the principal seat of Ghaznavid Khurāsān. Iron was mined, and good ironware reputedly manufactured at Nīshāpūr. Gold collection is also mentioned at places, but this was probably confined to gold dust collected from streams. There were great mines of silver at Parwan in Panjshir valley, north of Kabul: Ibn Hauqal reports some 10,000 unruly miners being employed there.[10] Andarab, a strategically situated town near Panjshir valley, was an important mint of the Ghaznavids, and its bullion was, obviously, supplied by the Panjshir mines.

One cannot gloss over the development of crafts in Khurāsān; it is possible that the spinning wheel had not yet arrived, but Khurāsān was so rich in all the materials necessary for the production of textiles, namely cotton, flax, silk and wool, that it produced carpets and cotton and silk cloth that had a large market outside Khurāsān.[11]

Commerce integrated the local economies within Khurāsān and, given its geographical position, linked it with different parts of the Asian world. Bosworth sums up the position of Nīshāpūr, as described by Arab geographers in the latter half of the tenth century, in the following words: 'an international trade centre, the resort of merchants from Iraq and Egypt, the depot (*matrah*) for Khwārizm, Ray and Gurgan, and the entrepôt (*furda* [=*furẓa*]) for Fārs,

Sind and Kirmān and … having inhabitants who were the richest in Khurāsān'.[12] Unfortunately, a good description of the mercantile classes is not available, and therefore it is difficult to go beyond such generalities.

Similarly, one has no data about the populations of towns. One has the impression from geographical accounts that they were numerous rather than individually large. In the course of his journey through West Asia to Egypt, 1045–52, the famous poet and Ismā'ili theologian, Nāṣir Khusrau, described Nīshāpūr as equal to no more than a fifth of Cairo; Bosworth, therefore, estimates that this, the then greatest city of Khurāsān, probably contained no more than 40,000 inhabitants.[13] We have no knowledge of the size of Ghaznin; it too was probably around this size, if the large numbers of the army, court and camp were to be discounted.

There was sufficient demand for labour and services in the towns and from the military, which made slave trade fairly lucrative. The two main sources for slaves in Khurāsān were first, the Turkic tribes of the steppes, and second, India. The Turkic slaves were obtained largely through trade, use being made by slave merchants of inter-tribal disputes among the Turks; the Indian slaves came largely as captives from military expeditions.[14] The Ghaznavid expeditions of the first half of the eleventh century must have greatly enlarged the number of Indian slaves in the Khurāsān slave markets.

Whether the economy of Khurāsān gained or lost, despite political unification and the influx of wealth and slaves from India, through its incorporation into the Ghaznavid Empire is a moot question. The Ghaznavid yoke on Khurāsān was by no means a light one, and the large military establishment, bureaucracy and the court imposed on the subject lands an ever-increasing burden of tax. The view that all surplus gained from land can be appropriated in royal tax, implicit in the *Siyāsatnāma* written later in the century by the Seljuqid vizier Niẓāmu'l Mulk Tūsī (d. 1092),[15] was probably already operative in Ghaznavid practice. This cannot be established by any definite statement about the share of produce taken on behalf of the state.[16] Bosworth, however, cites a late Sāmānid (late tenth-century) text which states that the land tax in Khurāsān and Transoxiana was fixed either on the basis of evaluation of standing crops or on the basis of average yield of the land over a period of years. He goes on to offer much circumstantial evidence to show that the Ghaznavid tax collection was so harsh that it compelled the population (peasants, apparently) to take to flight and bring ruin upon Khurāsān before the Ghaznavids lost most of it to the Seljuqids at the battle of Dandānqān in 1040.[17]

There were, therefore, good reasons for Ghaznavid rule being unpopular in Khurāsān and for Maḥmūd's reputation as a holy warrior being paralleled by that of a greedy tyrant. This is reflected in the tale told by Sa'dī (thirteenth century) of a dream of a 'ruler of Khurāsān', in which he saw that though Maḥmūd's body had dissolved into dust, his eyes still moved in their sockets for Maḥmūd 'could not cease watching how others had got his lands'.[18] Two centuries later, Mīr Khwānd, the celebrated historian of Khurāsān, expressed his determination not to prefix any commendatory epithet to Maḥmūd's name because of his avarice and extortions.[19]

A history of Sistan, written in 1056, dates the beginning of the *maḥnat* (suffering) of its people from the time that Maḥmūd conquered that fertile region 54 years earlier (1002). Religion here yielded easily to the demands of covetousness. Maḥmūd's army mostly comprised 'pagan Hindus'. When many of these were killed in a revolt the very next year

(1003), Maḥmūd took terrible revenge; his troops massacred Muslims in the Friday Mosque of the capital and Christians in a church and sacked the city.[20]

NORTH-WESTERN INDIA

By 1026, Maḥmūd of Ghaznin had brought under Ghaznavid control most of the Indus plains. The three principalities that he annexed were the kingdom of the Hindūshāhīs of Waihind (Ohind), comprising western Punjab and the ancient Gandhāra; and the domains of the amīrs of Multān and Manṣūra. The chronology of the conquests has little relevance here; but it may be borne in mind that while the struggle with the Hindūshāhīs had greatly occupied the Ghaznavids in their earlier days, the more economically important region within the Indus plains belonged to the amīrs of Multān and Manṣūra, which came under Ghaznavid control only later.

This region has been described by Ibn Khurdāzbih (d. 912), Istakharī (*c.* 930) and Mas'ūdī (d. 956). Ibn Hauqal (976) drew on Istakharī's work, but added some information of his own. Independent of these is the Persian geographical work *Ḥudūdu'l 'Ālam*, written in 982. Maqdīsī visited the region in 985–86, and although he too repeats Istakharī, he adds some further information as well. Finally, there are references in Alberuni's *Kitāb al-Hind* (*c.* 1035).

On agriculture, we are told what we should largely have expected. Unlike Khurāsān, cultivation in Sind relied principally on floods, the sowing being done after the floods had receded (obviously, for rabī crops). Wheat and sugarcane were grown. Costus and canes were exported. The number of villages under Manṣūra are said to be 300,000, an immense exaggeration, but suggestive of its great repute as a populous region. The area around Multān (southern Punjab) was thought to be less fertile and credited with just 120,000 'towns and villages'. On the arid plains stretching towards the Bolan Pass (between Tūrān, Multān and Manṣūra), pastoral nomads raised camels, apparently dromedaries, that were exported to Khurāsān for cross-breeding with Bactrian camels.[21] The Chinese pilgrim Xuan Zhuang had found small-sized dromedaries in Sind already in the seventh century, before the Arab conquest;[22] and it is likely that the increasing use of this hardy animal for transport over dry and warm lands gave fresh impetus to commerce. In this area, too, as in Khurāsān, pastoralism and sedentary communities complemented each other in the economic sphere.

D.N. Maclean, in his study of Sind after the Arab conquest, draws attention to the statements of geographers implying the development of commerce between Sind and Khurāsān.[23] Silver coins minted in the various towns of the Caliphate, from Egypt eastwards to Samarqand and Merv, were recovered during the excavations at Banbhor (the presumed site of the port of Daibal) and Manṣūra, and constitute fairly strong corroborative evidence.[24] At the same time, the occurrence of the small silver dirhams of the tenth-century amīrs of Sind in hoards in large parts of western, central and southern Rajasthan, as well as south-eastern Saurashtra, shows that Sind was itself providing silver money for use to its western neighbours across the Thar Desert.[25] This suggests brisk commerce in that direction as well.

Archaeology adds its voice to numismatics. The great site of Manṣūra in central Sind occupies 'an area of one and a half miles in length and about a mile in breadth, all covered

with brickbats'. The two major excavations that have been undertaken here leave no doubt in one's mind that the town attained this size in the tenth century, under the Habbari amīrs. With a built-up area of nearly 400 hectares, one can hardly imagine a population of less than 80,000 persons, even if we adopt the rate of only 200 to the hectare. In 985, Maqdīsī in fact described it as the largest city of its 'clime', reminding him of Damascus.[26] Clearly Sind did not witness the kind of de-urbanization that has been postulated for the rest of India in this period, on the basis of both literary and archaeological evidence.[27]

Archaeology tells us little about Multān, but once we have some impression of the size of Manṣūra, we can appreciate the significance of the statement made by Istakharī (and repeated by Ibn Hauqal) that Multān was about half the size of Manṣūra, and that Aror (in northern Sind) approached the size of Multān.[28] Reporting conditions a little later in the century, the *Ḥudūdu'l 'Ālam* describes Manṣūra as 'a great ('*aẓīm*) town' and Multān simply as a 'large town in Hind'.[29]

It is possible that on the coast, the port of Daibal was being replaced by a new port a little to its east, called Loharānī (the future Lāharī Bandar), situated directly on a branch of the Indus. Alberuni's testimony seems definite on the point.[30] Unfortunately, the site of the latter port has not been discovered, while Daibal may possibly be represented by Banbhor, whose prosperity in the tenth century has been confirmed by archaeological excavations at that site.[31] The decay of one port alongside the rise of another need not have affected either the prosperity of commerce or the total number of people inhabiting the two ports.

A town about which we should like to know more is undoubtedly Lahore. It enters the geographers' accounts only with the *Ḥudūdu'l 'Ālam*, which describes it as a town of the 'idolaters' with 'markets and idol-temples', subordinate to the mīr (amīr) of Multān, who in turn acknowledged allegiance to the Fatimid Caliphate of Egypt.[32] It is likely that political ties were supplemented by commercial relations between Lahore and Multān.

The commercial affinities were stronger. Lahore, after its submission to the *amīr* of Multan, passed into the hands of the Hindūshāhīs of Waihind (Ohind),[33] from whom it was apparently taken by Maḥmūd of Ghaznīn in *c*. 1021 (its date of capture does not seem to be specifically reported). Alberuni tells us that Waihind was 'the capital of Qandhār', one of the last mentions of Gandhāra in its old territorial sense (around Taxila, that is, north-western Panjab and the adjoining trans-Indus tract).[34] Ibn Hauqal tells us that the coins stamped at Qandhār were current money in Sind, valued at five dirhams of local coinage.[35] It has been suggested that this was practically the ratio between the silver contents of Hindūshāhī silver coins and the silver coins of the amīrs of Sind.[36] One may, then, legitimately see a stream of silver originating in the Panjshir mines (north of Kabul), getting coined at Waihind and sent down to Sind, to be re-coined for use across the Thar Desert. At least the Indus basin was not then 'living without silver'.

Multān necessarily occupied a strategic place in this trade, and we can visualize how the Multāni mercantile community, noted for its wealth and influence in the thirteenth- and fourteenth-century Delhi Sultanate, might have evolved at this time. Istakharī writes that 'the people of Multan wear trousers and most of them speak Persian and Sindi, as in Manṣūra'.[37] One may remember that the great sun temple in Multān is mentioned practically by all the geographers of the tenth century: it attracted a great number of pilgrims and was situated 'in the most populous part of the city, in the market of Multan, between the bazar of ivory dealers

and the shops of the coppersmiths'.[38] We must infer that these traders and artisans were Hindus, and that they too spoke Persian, along with the local dialect. Multāni merchants were, therefore, culturally well-suited to trade with territories under Muslim rulers. It is, accordingly, certain that during 200 years under Arab and indigenous Muslim rulers, an economic *modus operandi* with Indian mercantile groups had been established, which could also serve its purpose in the succeeding centuries over larger areas.

It is true that the initial impact of the Ghaznavid invasions must have disturbed the equilibrium quite heavily. Alberuni's passage about their destructive effects is well-known: 'Maḥmūd,' he says, 'utterly ruined the prosperity of the country', scattering Hindus in all directions 'like atoms of dust.'[39] The amīrates of Multān and Manṣūra, while being demolished, suffered no less. The sacking of Multān was marked by much slaughter and a levy of 20 million dirhams.[40] While returning from his Somnath expedition, Maḥmūd similarly sacked Manṣūra, though no details are available.[41] The archaeological excavations at Manṣūra have not turned up any artefact or inscription later than this event; and it is therefore likely that the town did not recover from the blow.

The Indian trade suffered too. Somadeva's famous *Kathāsaritsāgara*, written in Kashmir during 1063 to 1081, contains a tale which speaks of the new insecurity of north-western commerce. A *vaishya*, going from Ujjaini to Pushkaravati (in present North-Western Frontier Province, Pakistan) to pursue commerce, was captured along with three other merchants by a 'Tājika', who sold them as slaves to another 'Tājika', who made a present of them to a Turk. Set free by the intervention of goddess Mahishamardini, they resolved never again to trade in northern India (Uttarapatha), badly infested as it was with the *mlechchha*s, and to confine themselves to Dakshinapatha.[42] The story, with its recognition of the ethnic difference between the Tājīks and the Turks, shows a familiarity with actual conditions within the Ghaznavid dominions that invites trust.

Such conditions were perhaps allowed to prevail as long as the principal source of revenues was plunder from expeditions made into India, which, during Maḥmūd's reign (999–1030), was undoubtedly the case. Indeed, when Mas'ūd occupied the throne in 1030, the advice given to him by his minister Khwāja Aḥmad Ḥasan was that the commander (*sālār*) at Lahore, Aḥmad Yināltigīn, should be allowed 'to collect land-revenue (*māl*) and the settled tribute (*muwāẓa'āt*) from the *takur*s (*ṭhakkura*s), and then go on his expedition, so that much wealth may reach the Treasury'. Local revenues were thus seen as mere capital resources for gaining the expected booty. Yet, when Yināltigīn did what he was allowed to do, it was suspected that he had kept the revenues collected for himself, and the affair led to his rebellion, defeat and execution in 1033.[43] Clearly, the time when booty could be the principal source of state income was coming to a close, and the collection of tax and tribute from the *ṭhakkura*s, the local chiefs and leading men, needed particularly to be looked after. The reference to *ṭhakkura*s here is of some significance, since it shows that the Ghaznavid rulers had to let the dominant local magnates of the old regime continue as intermediaries and tribute payers. That a broad settlement with leading Hindu classes was established is shown by a passage in Kaikāūs's *Qābūs-nāma* (written 1082–83 or earlier), in which it is recommended that the three upper classes (*jin*s) of Hindus should be well-treated; the Brahmans, 'wise' and 'intelligent'; the *rāwat*s (*rāuta*s), 'brave' and 'capable soldiers'; and the Kirars, 'masters of head', that is, apparently the bureaucratic class.[44]

It is only at a later stage that fiscal arrangements might have begun to take the shape of what was prevalent in Khurāsān, like the heavy land tax (*kharāj*), theoretically levied on

the individual peasant, with *thakkura*s becoming mere intermediaries. Whether or how far such a development took place in the Panjab under Ghaznavid rule, which lasted till 1186, cannot be known, since our sources of information about the Ghaznavids dry up after Mas'ūd's deposition in 1040, at which point the extant portion of Baihaqī's detailed work ends. Bosworth, in his painstaking reconstruction of the history of the later Ghaznavids, has been able to extract little information of any direct economic significance.[45]

There are, however, two major indicators of a certain economic stability that the Ghaznavid regime acquired in north-western India. First, the coinage: the early Ghaznavid rulers made no attempt to have a uniform coinage throughout their dominions, but minted fresh versions of regional coinages. Thus, in Sind, they minted small silver coins of the same kind as those of the *amīr*s, and in the Panjab they issued bull-and-horseman types inherited from the Hindūshāhīs. Both were different from the coins they minted at Ghaznin. Clearly, this stemmed from a desire to have the coins look familiar to their subjects, and is an early indication of the influence of local trading classes on their minting policies. According to an interesting anecdote recorded by 'Aufī in the early thirteenth century, even Maḥmūd of Ghaznin accepted the advice of 'some sharp men of India' to first coin a pure currency and then debase it. The anecdote probably arose out of the actual process of debasement observed in the coinage of successive Ghaznavid rulers issued from Lahore. 'Aufī tells us that Mas'ūd III (1099–1115) redeemed the base issues by newly coining 100 million dirhams (silver pieces). This was obviously an exaggeration, and debased coins continued to be minted as their finds show; but the anecdote suggests that in popular memory, even the later Ghaznavids had considerable treasure and, therefore, earned considerable revenue.[46]

A second indication is the cultural efflorescence of Ghaznavid Lahore. Poets like Farrukhī and Mas'ūd Sa'd Salmān, who have left extant *diwan*s (collections of poems), and others still mentioned in *tazkira*s (biographical collections) give us the picture of generous court patronage. 'Alī Hujwīrī's *Kashfu'l Maḥjūb*, the great Sufic text, was composed at Lahore towards the end of the eleventh century, and suggests the presence of a substantial Muslim population. Lahore was thus probably a fairly prosperous town, although there is no geographer's description of the time to confirm our inference. In any case, to the Ghaznavids, the Panjab seemed to be the most politically and financially secure of their dominions to which they could turn as their western dominions slipped out of their grasp — this Mas'ūd I was planning to do in 1040, Bahrām Shāh did so in 1050–51, and Khusrau Shāh, finally, some time before his death in 1060.[47] To the fortunes of their Empire, the role of north-western India was thus practically opposite to that of Khurāsān, where the Ghaznavid regime proved to be so vulnerable and short.

NOTES AND REFERENCES

1. Amīr Unsaru'l Ma'ālī Kaikāūs, *Qābūs-nāma*, pp. 233–34. Kaikāūs is here cautioning against a king employing all his soldiers from the same community or race (*jins, qaum*), and he cites Sultan Maḥmūd's device of having 4,000 Turkish slaves balanced by 4,000 Hindu slaves. He obviously means slave-soldiers here, not merely 'palace-guards', as read by Bosworth, *Ghaznavids*, p. 107.
2. See Le Strange, *Eastern Caliphate*, Chs xxiv, xxv and xxvii–xxx. Bosworth, *Ghaznavids*, pp. 149–62, also gives a survey of the economy of Khurāsān, but concentrates on the Nīshāpūr region.
3. *Ḥudūd al-'Ālam*.

4. Besides the descriptions summarized in Le Strange's chapters on the region, see D.R. Hill in Bosworth and Asimov, *History of Civilizations of Central Asia*, IV (2), pp. 265–66; see also Bosworth, *Ghaznavids*, pp. 153–57.
5. See Ian C. Glover and Charles F.W. Higham in Harris, *Agriculture and Pastoralism*, pp. 417–19.
6. Le Strange, *Eastern Caliphate*, pp. 401 (Merv), 429 (Nīshāpūr district).
7. Laufer, *Sino-Iranica*, p. 537.
8. Cf. Wulff, *Crafts of Persia*, pp. 284–89; Needham, *Science and Civilisation in China*, IV(2), pp. 555–58; Le Strange, *Eastern Caliphate*, p. 337.
9. See for the horses of Kaikānān, Irfan Habib and Faiz Habib in *Proceedings of the Indian History Congress* (*PIHC*), 55th (Aligarh) session (1994), Delhi, 1995, p. 64, where earlier sources (Xuan Zhuang, *Chachnāma* and Balāzurī) are cited. For the horses and mules exported from Gharjistan, see Le Strange, *Eastern Caliphate*, p. 429.
10. Le Strange, *Eastern Caliphate*, p. 350.
11. Ibid., p. 429. See also Bosworth, *Ghaznavids*, pp. 151–52.
12. Bosworth, *Ghaznavids*, p.150.
13. Ibid., p. 162.
14. Ibid., pp. 98–106.
15. 'Niẓām ul-Mulk appears to have regarded the sultan as the sole owner of the soil', says Lambton in *Landlord and Peasant*, p. 61.
16. Muhammad Nazim, despite his exhaustive survey of the historical literature (praised by V. Minorsky!), was still unable to locate any reference to the magnitude of the land revenue. See his *The Life and Times of Sultan Mahmud of Ghazna*, pp. 133–34.
17. Bosworth, *Ghaznavids*, pp. 82–89.
18. Sa'dī, then, goes into verse, favourably comparing with Maḥmūd the pre-Muslim Sasanid ruler Nausherwān, whose name lives because of his sense of justice (*Gulistān*, Ch. 1, story no. 2). Cf. Habib, *Sultan Mahmud of Ghaznin*, p. ix.
19. Mīr Khwānd (d. 1498), *Tārīkh-i Rauẓatu's Ṣafā*, IV, pp. 122, 124. Elliot chose well when he provided translations of these passages from this history to his readers in Elliot and Dowson, *History of India*, IV, pp. 134–37.
20. *Tārīkh-i Sīstān*, pp. 354–57. Bosworth, *Ghaznavids*, pp. 89, 110, needs to be corrected in that the mosque and church massacres were not carried out by Maḥmūd's 'pagan Hindu troops'. They were a part of the army earlier left by Maḥmūd in Sistan, and had been themselves massacred by the rebels.
21. These statements are based on extracts from Ibn Khurdāzbih, Mas'ūdī, Istakharī and Ibn-i Hauqal in Elliot and Dowson, *History of India*, I, pp. 12–40. The reference to camels is in Ibn Hauqal (p. 38).
22. Xuan Zhuang, *Si-Yu-Ki*, II, p. 272.
23. Maclean, *Arab Sind*, pp. 68–70.
24. Cf. Deyell, *Living Without Silver*, pp. 47–48.
25. See Nabi Khan, *Al-Mansurah*, p. 13. Cousens, *Antiquities of Sind*, pp. 48ff, who describes the first official excavations at the site with Plate IV, giving a scale-plan of the city, assigns it a still larger area: 2.5 miles in length and 0.5 to 0.75 mile in width, with 'thousands' of wells.
26. Nabi Khan, *Al-Mansurah*, p. 3; Maclean, *Arab Sind*, p. 73*n*. Maqdīsī might, of course, have had the architectural style of Damascus, rather than its size, in mind while making this comparison.
27. See Sharma, *Urban Decay*. Sind is not considered among the regions and the name of Manṣūra does not occur in the index. Cf. M. Athar Ali, Presidential Address, *PIHC*, 50th session (1989–90), p. 4.
28. Elliot and Dowson, *History of India*, pp. 27–28, 35, 37.
29. *Ḥudūd al-'Ālam*, pp. 89, 122.
30. Sachau, *Alberuni's India*, I, pp. 208, 260.
31. Khan, *Banbhore*.
32. *Ḥudūd al-'Ālam*, pp. 89–90. Almonds and coconuts could not, however, possibly have been produced at Lahore! The amīr of Multān himself read the *khuṭba* in the name of the 'Western', that is, the Fāṭimid or caliph, whose seat was in Egypt.

33. See Nazim, *Sultan Maḥmūd*, p. 195, for the acquisition of Lahore by the Hindūshāhīs in the year 999. Lahore is, then, said to have been ruled by an independent Hindu dynasty.
34. Sachau, *Alberuni's India*, I, p. 206.
35. Elliot and Dowson, *History of India*, I, p. 35. This statement is also made by Istakharī (extract translated in Pathan, *Sind*, p. 263), though it is missing in Elliot and Dowson, *History of India*, I, p.27. Mas'ūdī (Pathan, *Sind*, p. 262) reads Qahir instead of Qandahar—a scribal slip, presumably.
36. Deyell, *Living Without Silver*, pp. 47–48.
37. Elliot and Dowson, *History of India*, I, p. 29.
38. Ibn Hauqal in Elliot and Dowson, *History of India*, I, p. 35. According to Alberuni, the Carmathians (that is, the Fāṭimid partisans) upon capturing Multān in the latter part of the tenth century destroyed the idol temple and built a mosque in its stead, which Maḥmūd of Ghaznin in turn reduced to a barn-floor! (Sachau, *Alberuni's India*, I, pp. 116–17, II, p. 148).
39. Sachau, *Alberuni's India*, I, p. 22.
40. Pathan, *Sind*, pp. 382–83. This event took place in 1006, while Multān's final reduction occurred in 1010.
41. Ibid., pp. 241–42.
42. The story is discussed in Yadava, *Society and Culture*, p. 271. On Somadeva and his work, see Keith, *Sanskrit Literature*, pp. 281–87.
43. Baihaqī, *Tārīkh-i Baihaqī* , p. 407.
44. Kaikāūs, *Qābūs-nāma*, pp. 116–17. The reference to *rāutas* (Prakrit for *rājaputras*) as warriors is of great interest. R. Levy, the translator of this work (cited by Yūsufī), identifies Kirars with the caste of this name mentioned in Denzil Ibbetson, *Panjab Castes*, p. 16: 'The Kirār or Mahājan, including not only traders, but all the Kāyaths and the clerkly class and even Brahmans who take to these pursuits.'
45. Bosworth, *Later Ghaznavids*.
46. See 'Aufi, *Jāmi'u'l Ḥikāyāt*, tr. Elliot and Dowson in *History of India*, II, p. 188. For a survey of Ghaznavid coinage, see Deyell, *Living Without Silver*, pp. 71–85.
47. Bosworth, *Later Ghaznavids*, pp. 118–23.

CHAPTER 2

The Economy of Gujarat in the Thirteenth Century

Pushpa Prasad

Gujarat has fairly good claims to be chosen for the survey of its economy before it was annexed by the Sultanate around the beginning of the fourteenth century. There is considerable source material for the preceding centuries, from the ninth century when it was ruled by the Chaulukya dynasty[1]—including copper plates, stone inscriptions, coins, and both secular and religious (mainly Jain) literature. While these sources offer some evidence on economic conditions, there is one remarkable text that enables us to study the economy of thirteenth-century Gujarat in exceptional detail. This is the *Lekhapaddhati* ('models of written documents'),[2] an anonymous collection of documents, unique in character among the mass of ancient Indian texts. The *LP* (as we may henceforth refer to it for convenience) contains numerous specimens of letters and documents of various kinds, including land grants, treaties between kings, and model drafts of private letters. It was presumably compiled as a guide for official draftsmen or scribes, and professional letter writers.

The documents in the *LP* date from VS 802 to VS 1533 (A.D. 744–45 to A.D. 1475–76), and it seems that the version from which the surviving manuscripts have descended was copied in the sixteenth century. Fourteen documents are dated at VS 802 (A.D. 744–45), but as many as 69 are dated at VS 1288 (A.D. 1230–31).[3]

Since the *LP* documents touch upon many aspects of life (from rights and obligations of land grantees to the sale of women slaves), it is important to assess the historicity and authenticity of the documents. This can best be done by comparison with Chaulukyan inscriptions and contemporary literary accounts. It seems that while the eighth-century dates are suspect, the matching of documents with inscriptions leaves little room for suspicion regarding the authenticity of the documents in the *LP*, and of their belonging to the Chaulukyan period from the late tenth century to the end of the thirteenth.

The chronology of the Chaulukya kings of Gujarat has been worked out by Buhler on the basis of 11 land grants of the Chaulukyas of Anhilvad. The list derived from the *LP* documents conforms closely to the genealogical lists of the Chaulukya inscriptions. The actual titles and epithets used for individual rulers are also the same. Moreover, the expressions and

terms used in the *LP* documents and the inscriptions are generally identical; and the names of certain specific territorial units (*pathaka*s) in *LP* also occur in the inscriptions.

The opening verses in the *LP* mention the names of 32 *karaṇa*s or departments. Several of these departments are also mentioned in Chaulukyan inscriptions. A.K. Majumdar has therefore concluded that it is highly improbable that the verse giving the names of *karaṇa*s could have been composed after the annexation of Gujarat to the Delhi Sultanate under ʻAlāuddīn Khaljī (1296–1316).[4]

The information that the *LP* documents offer us can thus be safely held to apply to the economic conditions of Gujarat in the twelfth and thirteenth centuries and we can supplement it by such epigraphic and other evidence as we have access to.

THE AGRARIAN ORDER AND THE STRUCTURE OF POWER

Rājaputras

For the so-called ʻfeudal organizationʼ of pre-Sultanate Gujarat, the *LP* documents form an important source. We may first begin with the status of the *rājaputra*, who provided the element of force on which the ʻfeudalʼ structure rested. R.S. Sharma suggests that *rājaputra*s were originally scions of royal families.[5] The literal meaning of the word *rājaputra* is, indeed, ʻson of a *rājā*ʼ or a prince. It was thus used as a title of a member of the royal family as well as of a subordinate ruler, but, especially in the modified Prakrit forms of *rāvata* and *rāuta*, it began in time to be used for a horseman.[6]

The full form *rājaputra* occurs only once in the *LP* (D.No. 29); the abbreviated form, *rāja*, occurs at all other places. It is clear from the usage in the *LP* that the *rājaputra* was an official with both civil and military obligations. His rank was lower than that of the *rāṇaka*. The *rājaputra* who received the land grant as a gift (*prasāda pattalā*)[7] from the *rāṇaka* had no right to grant uncultivated land within it to Brahmans and temples (D.No. 4). In one case the *rāṇaka* called upon the *rājaputra* to provide 400 foot soldiers, 100 horsemen and 100 chariot horses for the service of the king (D.No. 4). Here, clearly, the *rājaputra* was much more than a horseman, being a kind of military officer or clan chief.

Another document (D.No. 13, dated vs 802 and vs 1288) indicates that allowances were to be given to *rājaputra*s for the maintenance of soldiers and horses. Such allowances were to be given to them by the officer (*adhikārī*) in charge of the *pathaka*,[8] in both cash and kind. The officer of the *pathaka* was required to make the payment after inspecting the number of cavalrymen and horses (*ḍrashṭa-ghotaka padatinam*) and recording their daily expenses. Yet another document (D.No. 9) mentions that an officer apparently holding charge of the granary was ordered to pay certain foot soldiers (*padati*) a specified quantity of grain and other undressed provisions (*kana-bhaktaka*).

The *rājaputra*s had apparently to pay certain sums on account of villages assigned to them by the *rāṇaka*. According to one document (D.No. 6),[9] there was an agreement between a *rājaputra* and the *pañchakula*, by which the *rājaputra* agreed to pay 3,000 *dramma*s as the main head of revenue, an additional 216 *dramma*s as perquisites to the *pañchakula*, and 40 *dramma*s for miscellaneous expenses. The main revenue was to be paid in three instalments. In addition, the *rājaputra* paid the excess money that was already fixed (*chaṭāpaka*), made

offerings (a rough translation of *mala mārgaṇa*), gave money for auspicious occasions (*māṃgalīyaka*) and charges for a watch station (*chatavara*).[10] The *rājaputra* was also made responsible for the safeguarding of the roads. Information of the payment of the three instalments was to be conveyed to *Śrī karaṇa* (head of the department concerned) and the officer in charge of state income.

By another charter (D.No. 6), a *rājaputra* is obliged to pay revenue in cash along with 40 *kalasi*s of peas in four sacks. If the money was not paid in time, it was to be paid along with an interest of 5 per cent (per month?). The cultivators were to pay him revenue in lieu of protection. Those who came from outside could settle there according to the lease deed (*gunakshara*).[11] Cultivators who had lived for generations were not to be punished illegally, and all fines exceeding 25 *dramma*s were to be surrendered to the royal treasury. Special arrangements had to be made for the protection of the village. Men residing in the confines of the village were not to be allowed to have additional land in their possession. Cows could not be kept in the houses of scavengers (*mātaṇgānā gṛiha gavāṃ nishedhanāya*). Other *rājaputra*s stood sureties for the *rājaputra* to whom the charter was issued.

Both these charters granted to the *rājaputra*s were for one year only; but there is no indication of a time limit in other charters granted by the *rājā*, *mahāmātya*s and *rāṇaka*s.

The text of one document recites that the *rāṇaka* granted land as a gift (*prasāda pattalā*) to a *rājaputra* who was to collect the revenue (*udgrāhya*), maintain law and order, and provide 100 foot soldiers and 20 horsemen in the service of the *rāṇaka*. This village was to be taxed, including families who enjoyed the privilege of paying fixed revenue (*vasamān samkar kulai*). It would thus seem that the *rājaputra* collected taxes that (or a portion whereof) he passed on to the *rāṇaka*.

A *rājaputra* Chaturbhuja, who had enjoyed the village Balua as a benefice in Dhandahi *pathaka*, was appointed *vāhaka* (official) in his own territory. The *rājaputra* Ajayasiṁha, the son of a *mahaṇṭaka*, wrote deeds of debts (one of which forms D.No. 47) in the presence of the *pañchakula*. Here, the term *rājaputra* seems to stand for a caste.

According to one of the documents (D.No. 29), certain *rājaputra*s wrote the deed regarding payment of the government tax (*rājākiya*). It states that the village would be seized by the order of the king as government property (*rājā sanjataya kartavya*), presumably if the tax was not paid.

Two documents (both contained in D.No. 62) VS 1288 (A.D. 1231) show that their overlords tried to check disputes among *rājaputra*s by laying down a code of conduct (*śilapatraṃ*) for them.[12]

The *rājaputra*s were also called *rāut* and *rāval* and given the designation of *mahāmaṇḍaleśvara* (D.Nos.7, 37).

Rāṇakas

As is apparent from the *LP* documents, the status and designation of the *rāṇaka* was higher than that of the *rājaputra*. The term *rāṇaka* seems to be derived from the word *rājanaka* or *rājanīyaka*.[13] Documents show that *rāṇakas* enjoyed high-sounding titles such as *mahārāṇaka*,[14] *māṇḍalika*, *mahāmaṇḍalādhipati* and *mahāmaṇḍaleśvara,*[15] which were not only meant to indicate their functions, but also emphasized their high position.

The *rāṇakas* in Gujarat appear to have been the immediate vassals of the rulers. The *LP* (D.No. 1) records that the *rāṇā* or *rāṇaka* should follow the instructions of the *daṇḍanāyaka* and should present himself at the royal army camp along with his horses and foot soldiers, various kinds of armour, war elephants, and the like.

It appears from Document No. 30 that if the *rāṇā* did not present himself in times of war, then, according to the orders of the king, his villages would be seized.

While holding the land by grant of the ruler and the *mahāmātya*, the *rāṇakas* could grant the land to other title holders. Document No. 3 (dated VS 1288/A.D. 1231) shows that *mahāmaṇḍaleśvara rāṇaka* Śrī Lavanaprasada[16] had been enjoying the *pathaka* (territory) of Khetakdhara as a gift (*prasāda pattalā*), granted to him by his overlord, and he (the *rāṇaka*) had appointed Śrī Madhava as the *daṇḍanāyaka* (governor) for his own *pathaka*, an appointment which the *pañchakula* was in the know of. The *rāṇaka*, by the same document, without apparently needing to take permission from his lord, granted the village to a *ṭhakkura*, who was reputedly a reliable person and performed all the services of the temples; in turn, the *ṭhakkura* collected all the taxes from the villagers.

The *rāṇaka*, or *rāṇā*, who accepted the land grant from the ruler, collected all the taxes and was obliged to pay dues to the grantor and protect the village from 'disturbances by thieves and śūdras'. It seems that the *rāṇaka*s exercised full control over their territory, which, as we have seen, they could sub-assign to *rājaputra*s. We have, fortunately, in one document, a relatively full statement of the authority the *rāṇaka* possessed over the peasantry.

This, a model document (D.No. 24) for the *bhūmi saṃsthā* (dated S. 1407), says that at the *maṇḍala karaṇa*, the *rāṇā* Śrī Arinamalla issued the *guṇā patra* to the cultivators (*kuṭumbikā*s) residing in all the villages of the Pānchala country. These are described variously as cultivators upon whom revenue was fixed in lump sum, those who had to pay revenue at a particular rate and those who lived in huts (and so, like the English 'cottagers', presumably holding their fields solely under lease rights). The *dāni-dramma*s[17] (taxes in kind and *dramma* coins) were entered in the royal account book. The cultivators were to cultivate the fields, recorded in the registers against their names. They were not to keep any portion uncultivated. They were to render dues and services according to local custom, including the payment of parts of the produce to local officials, village artisans, and the like. There was a specific provision for seeds of rice (*vrīhi*), wheat (*godhūma*), barley (*yava*), peas (*chiṇa*) and *lāta* (?) to be supplied from the lord's barn-yard or threshing floor, the procurement of other seeds being the responsibility of the peasants. The peasants were required to carry two-thirds of the grain to the granary—which formed the share of the *rāṇā*—and to keep one-third and the grass for themselves. A peasant found stealing the tax-grain was to be warned once; but if he did so again, he was to be deprived of his share of the produce; and if this act was further repeated, he was to be turned out of the village. Complaints were not to be entertained from individual peasants, except when four of them made them together with the *guṇā patra*. The fields, grain, cattle, and other property of any cultivator who abandoned the land were to be seized for the ruler.

The *rāṇaka* exercised not only the right to wage war, but also to enter into treaties with another *rāṇaka* (D.No. 64). In one such treaty, both parties agreed not to invade each other's country and, if attacked by any powerful enemy, to jointly oppose the invader. If a *rājaputra* of one *rāṇaka* committed a felony or entered the territory of another, he was not to be permitted by the *rāṇaka* to stay in his territory.

Pañchakula

In towns and villages, the administration seems almost universally to have been carried out by royal officers with the assistance of the *pañchakula* (five elders).[18] The earliest epigraphic reference to the *pañchakula* occurs in the Sarada inscription of Hund in the North Western Frontier Province, assigned to the last quarter of the eighth century.[19] In the *LP* documents, the activities of the *pañchakula* seem to be quite varied. Document Nos 6, 7, 22 and 24 show the *pañchakula* collecting the state's share of revenue and taking cognizance of religious as well as secular grants when made by private individuals. The *pañchakula* are shown as holding the charge of the *Devakaraṇa* (department looking after the temples) in Document No. 10 and as granting certificates of sale and concessions to traders in Document Nos 15, 16 and 17. In Document Nos 47 and 74, the *pañchakula* appear as arbitrators and judges settling disputes between two parties and establishing facts.

The phrase *amukāka prabhṛiti pañchakulaṃ* (so-and-so form the *pañchakula*) shows that it was a body composed of a certain number of persons. We can get some idea about the members of a *pañchakula* from these documents. It seems that, given the context, its members were not only the village leaders, but also the highest administrative officers, such as *mahāmātya*s, *balādhipa*s*, rājaputra*s and *mahanṭaka*s. Sometimes they appear to be working under the *mahāmaṇḍaleśvara* (D.No. 7). Document No. 47 shows us that a *rājaputra* had appointed the *mahanṭaka*s, who were members of the *pañchakula*.[20]

The *pañcha mukha nagara* are also mentioned in several documents of *LP*.[21] Document Nos 49 and 59 lay down the requirement of informing the *pañcha mukha nagara* before the sale of a house or a female slave takes place. In the *LP*, Document No. 67, we find a man being hauled up by his parents on account of misconduct before the *pañcha mukha nagara* and *pañcha mukha Brāhman*s, who thereupon deprive him of his right of inheritance, maintenance and partition.

Both the full form of the word *mahaṇṭaka* and its abbreviation *mahaṃ* frequently occur in the *LP*. According to the *LP* editor (p. 100), it denotes a title of respect among the Baniyas of Gujarat, and is applied to the accountant and clerk.[22] Rajabali Pandey thinks that the *mahaṇṭaka*s were associated with village administration.[23] From these documents, we can infer that the *mahaṇṭaka*s were members of the *pañchakula*, being high officers, either of the *pathaka* or the village.

Agriculture and Fiscal System

The documents in the *LP* shed light on fiscal and agrarian matters. According to one document (dated VS 1288/A.D. 1231) (D.No. 22), the rate of revenue was fixed on the basis of the nature or type of land. Previously uncultivated high land (*uddhakhila bhūmi*), when brought under cultivation by peasants coming from outside the locality, had to pay 10 *dramma*s per *viṃśopika* (unit of area of land).[24] The same document in one manuscript, however, makes no difference between local peasants and those from outside, but states that for tilling previously uncultivated high land one had to pay 16 *dramma*s per *viṃśopika*.

On the *khilabhūmi* (uncultivated land), one had to pay 10 *dramma*s per *viṃśopika*. For *samakara bhūmi* revenue was fixed at 24 *dramma*s, as it was for *pochil bhūmi* (soft land).

Document No. 24 is of some importance in revealing how heavy the land tax was. As we have already seen, it required the peasants to carry two-thirds of the produce into the granary of the *rāṇaka*. Any cultivator who abandoned land risked getting his land, grain, cattle and property seized by the ruler, apparently in lieu of the loss to taxation that his abandonment of cultivation would bring about.

For the peasant, the term *kuṭumbika* is generally used.[25] According to B.N.S. Yadava *kuṭumbin*, as a generic term for peasant, prevailed all over northern India during the early medieval period.[26] These documents mention two types of peasants, namely those who came from outside and brought land under cultivation, being now obliged to pay revenue on them, and the local peasants who already paid taxes.[27] The *kuṭumbin* or *kuṭumbika* included propertied peasants as well. Such peasants borrowed money to meet their needs, and for the satisfaction of the creditor, sometimes mortgaged their houses, threshing floors, fields and crops.[28]

Given its nature, the *LP* supplies little information on the methods employed in cultivation and irrigation. It mentions crops such as wheat, millet, lintels (for example, *mūṇg*, *māsh*), rice (*vrihi*), *tila*, *tūvar*, *jhālar* and *jhūlā*; agricultural tools, such as spade (*pāvaḍā*), axe (*kuhāḍā*), hoe (*kudāla*), scythe (*kusi*, an iron bar sharpened at one end), plough (*hala lāṇgala*) and goad, as also *lāngaḍī* (a kind of cart) (see Document No. 60, a *vibhaṇga patra*, where the property is divided among family members). Other documents record names of fruits, seeds, and other products such as betel-nut, coconut, pepper, Indian madder, yellow myrobalan, sugar, molasses, seeds of *pravāla*, *maithī* and a kind of kidney beans (*mūga*).

A reference to the *vārigṛiha karaṇa* (official in charge of irrigation) in models of documents of the *LP* (paragraph 8) suggests that there was a department of irrigation. We have references to *kūpa* (well), *taḍāga* (tank) and *nadi* (river), which provided water for irrigation.

In addition to numerous taxes and cesses, the following fines are also mentioned:

1. for stealing hides—25 *dramma*s;[29]
2. for violence, breaking heads (*mastaka phoḍana*)—6 *dramma*s;
3. ploughing land belonging to someone else (appropriating the share of crop due to another)—5 *dramma*s;
4. for allowing one's cattle to graze on (others') corn fields—1 *dramma*;
5. for disobeying orders—5 *dramma*s.

Documents designated *grāma paṭṭaka*, *samkara uddha grāma paṭṭaka vidhi* and *grāma saṁsthā* (D.Nos 6, 7, 22) yield information about other methods for collecting the land revenue. According to these deeds, agreements were made between private persons and the government for the payment of yearly revenue, to be paid in three instalments along with a few perquisites. Under another arrangement given in the *LP*, Document No. 7, the annual revenue was fixed and villagers were freed from paying any further impost and perquisites.

Its monsoon-based agriculture being subject to varying annual levels of rainfall, Gujarat did not escape from visitations of famines. In the *LP*, Document 59 is a deed of voluntary acceptance of slavery (A.D. 1230–31) by a 10-year-old girl who had been abandoned by her family owing to a famine. There is also record of a 'terrible famine' in A.D. 1256–58 in the *Jagaḍūcharita* of Survāṇanda.[30]

COMMERCE

Trade and Transport

Al-Idrīsī, writing his great geographical work in A.D. 1154 in distant Sicily, conveys to us a report that the main means of carriage of persons and goods in the area around Nahrwāra (Anhīlvāḍa Paṭṭan) and on the route from it to Barūj (Broach) was provided by ox-carts.[31] Document No. 17 in the *LP* indeed shows a merchant carrying his goods on 48 carts and 10 pack oxen.

The *LP* documents contain some information on how taxes were levied on inland trade.

To carry goods from one place to another, merchants had to pay taxes such as road tax, toll and excise and obtain permits, certificates and transit clearances, which mainly indicated that they had paid the taxes due on them. Two documents called *deśottara*[32] (both contained in D.No. 5, dated VS 802/A.D. 744 and VS 1288/A.D. 1230) show that officers such as the *pratisārika*[33] and the *volāpika*[34] collected such taxes. The *pratisārika*, an officer, after charging a fee, allowed carts carrying household furniture, corn, 160 unspecified units of packed goods, eight bullocks and 10 buffaloes to encamp at a place. After being detained, the merchant (*sāhu*), who was the owner, obtained a permit called *deśottara* to travel further.

Another document (D.No. 16) called *ṭippanakaṁ yathā* (certified)[35] recites that the *pañchakula*, along with the *balādhikāri*, had issued a certificate to the merchant Chahada. According to this certificate, the merchant had to pay 10,000(!) *dramma*s as road tax. These *dramma*s were part of what he had obtained after selling a hundred *mudaka*s,[36] a kind of *mūng* (lentils), being carried to Śri Pattana from Vardhamana.[37]

A pair of *LP* documents related to the transit of goods and are called *atha mārgāksharārṇi yatha*, having been issued by the *pañchakula*. Of these (both contained in D.No. 17), the first is dated VS 802/A.D. 744 (!) and the second, VS 1288/A.D. 1230–31. According to these documents, a merchant taking 48 carts full of sesamum and 10 loaded pack bullocks had to pay four *dramma*s as a road cess along with a tax on sacks.[38]

The third document (D.No. 17), which is dated VS 1533/A.D. 1475–76(!), mentions that the *pañchakula*, in charge of custom house (*maṇḍapikā*),[39] gave transit clearance to a merchant with his goods, comprising four carts, 10 earthen pots, 15 packages of Indian madder, 10 bundles of sweetmeats, one bundle of sandal wood, four earthen pots, 50 *mana*s[40] of seeds of *pravāla* grass, and two packages of *maithi*. For the road cess, along with a tax on sacks, he had to pay 1,000 *dramma*s.

The documents called *guṇāksharāṇi* (remission letters, D.No. 15), dated VS 802/A.D. 744 and VS 1288/A.D. 1230, show the *pañchakula*, along with other officers, issuing letters to the same merchant Madan[41] (the earlier date must, again, be fictitious). The merchant had purchased betel-nut, coconut, pepper, Indian madder, yellow myrobalan, sugar and molasses, and cloth. Thereafter, he carried these on pack bullocks from Śri Pattana to Nagasarika. On these pack bullocks the road cess was to be levied with a reduction amounting to a fourth of what was customarily collected.

A document, *dāna maṇḍapikā patra vidhi* (D.No. 68), dated VS 1288/A.D. 1231, concerning duties levied by the superintendent of the custom house, shows that a foreign merchant who intended to buy and sell here had to pay duty on both exports and imports.

These taxes were collected by the superintendents of the *pathakīyaka* (collection of the road tax), the *pratisārika* (gate-keeper) and the *uparahiṇḍīyaka* (tax inspector). This document directs the officers not to harass people, maintain good behaviour, and not collect more money than authorized from foreign merchants, the *Banjāra*s (grain transporters) and itinerant traders. At the same time, the merchants were directed to strictly pay the custom duty and other taxes.

The merchants of Gujarat enjoyed a high reputation for integrity. They were, according to Marco Polo, very punctilious in performing commissions on behalf of foreign merchants.[42] Similar testimony comes from Shaikh Niẓāmu'ddīn of Delhi. In a conversation recorded in 1314, he related an incident of 1243, when the merchants of Lahore, taking their wares to Gujarat, first demanded high prices and then sold for far less. The Hindus of Gujarat had no such custom; they from the beginning indicated the real price on which they were prepared to sell. A Hindu merchant is said to have wondered how Lahore could flourish when its people practised such unethical methods.[43]

One *LP* document (D.No. 59) suggests that a girl slave could be shipped overseas to be sold or exchanged for other commodities.[44] This shows that the export of slaves took place from the Chaulukya kingdom as well, and not only from the contemporary Sultanate. Chau Ju-Kua (Zhao Rugua) records (1225) that Gujarat exported to 'Ta-shi' (Arab countries) quantities of indigo, red kino, myrobalans and cotton stuffs.[45] Marco Polo too mentions among the main exports of Gujarat both indigo and cotton, but adds to these dressed leather and embroidered mats.[46] In return, horses and other articles were imported from Hormuz (*LP*, D.No. 41).[47] Gujarat too was a channel by which slaves transported by sea could be conveyed to the Delhi Sultanate, as was the case with the famous Balban.[48]

Trade by sea brought Persian and Arab merchants to Gujarat. There is the testimony of the bilingual Verāval-Somnath inscription in Sanskrit and Arabic. Nūru'ddīn Fīroz, a native of Hormuz, 'a prince of merchants', and a ship-owner, bought land to erect a mosque on it and much other property, detailed in the inscription, whose income was dedicated to meeting the cost of maintenance and repair of the mosque. The mosque was to serve Muslim 'ship captains and sailors' (*nākhu-nāvika*) at Somnath, a temple-city as well as port.[49] Merchants from foreign countries also lived in, and freely passed through, Gujarāt. Thus when Balban, a Turkish slave, was bought in Baghdad by merchants who took him to Gujarat, he was here purchased by Khwāja Jamālu'ddīn of Basra, who, having brought him up, took him to Delhi in 1232–33.[50] There was a very rich community of Muslim merchants (*khwāja*s) at Cambay, who suffered great loss of property (including slaves) when the Khalji army sacked the city around the year 1300.[51]

Credit and Exchange

The *LP* touches on a number of principles or norms in matters relating to credit and banking.[52]

Two documents entitled *vṛiddhiphala bhoga* (D.No. 51) and *gṛihaḍḍāṇka patra vidhi* (D.No. 52) refer to the mortgage of a residential building in return for loan. In both documents the mortgager is not obliged to pay any interest, but has to let the mortgagee use the house without paying any rent during the period of mortgage, set at one year in the first document

and five years in the second. Both documents give details of the mortgaged property, such as boundaries of the land and house. The documents also prescribed that if any damage occurred for which any action of the mortgagee was not responsible, then the mortgager would have to repair the property at his own expense. The second document also contains a specific provision forbidding the mortgagee from creating a sub-mortgage by transferring the original deed of mortgage to a new mortgagee.

The document called *gṛihadūlipatraṁ* (D.No. 53) is an example of a non-usufructuary deed. This records that the mortgagee would not enjoy the possession of the property and the mortgager would have to pay him interest at the rate of 2 per cent per month. Further, it records that if the debtor failed to repay the principal along with interest, the house would be permanently lost to the mortgager, even if he paid double the amount after the expiry date.

Loans were taken against mortgaged objects recorded in the *adhau kṛita*, *vastūr nāmupari gṛihita dravya patra vidhi* (D.No. 25), *aśvāḍḍaṇaka* (D.No. 55), *gṛihāḍḍanaka patra* (D.No. 52), and *kshetrāḍḍaṇaka patra* (D.No. 54), these being the names of deeds for mortgaging chattel, namely eight she-buffaloes, 16 oxen, 50 cows and two *phik*s (?), horses, houses and fields respectively. The law-givers in *Smriti* literature do not permit monetary interest and simultaneous use of mortgaged cattle.[53] It seems that in practice, this prohibition was not honoured.

Of two other documents, one called *valitpatra vidhi* records transactions of money borrowed by mortgaging products of land or other property (D.No. 48). In the first document, the borrower, who had to repay a loan of 600 *dramma*s, mortgaged his mango garden with the creditor on condition that the mortgagee would collect 100 *dramma*s annually for the next six years, whereafter the garden would return to the possession of the mortgager. The interesting point in this deed is that the creditor entered into an agreement with the debtor after the interest paid had become equal to the principal. The rules prescribed by law-givers state that 'in money transactions interest paid at one time shall never exceed the double (of the principal)'.[54] This limitation of interest to an amount not exceeding the principal is known in modern times as the rule of *daṇḍupat.*[55] Such a rule required that a fresh deed be drawn up.

In another document (D.No. 26), it is recorded that a loan of foodgrains of good quality was to be repaid together with interest in kind, which was to be carried to the creditor's godown in the debtor's cart. Although the creditor did not take possession of the field or foodgrains of the debtor, it is clear that a charge was made on the standing crops of the debtor.[56] According to another clause of this document, the repayment of wheat was to be made after paying the king's share (as tax).

Loans given against personal security of a surety are called *vyavahāra patra* (D.No. 47), *hastākshārāṇi* (D.No. 69) and *ādhipatra* (D.No. 56) in the *LP*. Loans contracted without any security are recorded in a document called *sanmukha hastāksharāṇi* (D.No. 70). In this document, the rate of interest is not mentioned, but the loan is shown to be interest-bearing.

One set of documents gives the texts of bills (*huṇḍikā*) and shows how they were issued and honoured. According to D.No. 9 dated SV1533 (A.D. 1476), a son of a *rājaputra* was to be paid 124 *dramma*s when the royal bill *rājahuṇḍikā* matured. The period of grace for payment was 15 days. For any delay beyond that time, beginning with the 16th day, the holder

was to be paid one *dramma* and one *kala* (pice) a day(?). The document bears a late fifteenth-century date in the *LP*, though we know that the instrument had an earlier history.[57]

From these documents it appears that the practice of taking sureties for loan was general. Some of the documents refer to *adhipālaka*s (D.Nos 25, 52), *bhaṭṭaputra*s (D.No. 25), *kuṭuṁbika*s (D.Nos 47, 48, 51, 89), *rājaputra*s (D.Nos 55, 58, 62), *vāṇija* or *vyavahāraka* (both the terms are applied to merchants) (D.Nos 11, 47, 55, 69, 71), *śreshṭhī* (D.No. 60) and *rakshapāla* (D.Nos 48, 61) as sureties.

The deeds are often said to be written in the presence of the *pañchakula*. It seems that for recovering one's loan one had to approach certain royal officers. The responsibility of the sureties for the payment of money was held to be equal to that of the debtor himself. Further, these documents state that if the mortgagee failed to recover his money after selling the mortgaged property, the sureties had to meet the balance even by selling their own property or by borrowing from others. It is also laid down that if the mortgaged property was destroyed without any fault of the mortgagee, the sureties still carried the full responsibility for the repayment of loan with interest. Further, if any of the sureties was approached for the repayment of loan, he was not to point to the others as also being responsible. Document No. 25 prescribes that if the mortgagee was under the necessity of getting the money back before the specified time, he, accompanied by the *bhaṭṭaputra*s,[58] would approach the guarantors and obtain from them the principal together with interest; the expenses on account of the involvement of the *bhaṭṭaputra*s were to be borne entirely by the guarantors.

Apart from the sureties, the heirs were also responsible for the repayment of loans contracted by a deceased debtor (D.No. 60).

For the recovery or repayment of a loan, various other provisions are made in these documents. These documents prescribe that the whole amount along with interest was to be paid on a fixed day, either on Divali, *Akshayatṛitīyā,* or during a specified month. The whole amount was to be paid at once, without the debtor causing any anxiety to, or raising any quarrel with, the creditor, within 24 hours of the prescribed time.

The documents in *LP* usually record the rate of interest as 2 per cent per month. Alberuni also refers to this rate as the permissible rate of interest.[59] In one document (D.No. 6) the rate of interest is put as high as 5 per cent (per month).

In the *LP* documents the creditor is called *dhanika*, *vyavahāraka, śreshṭī* or *sādhu*,[60] who invests his money for the sake of profit. The term *wevehar* is the Gujarati form of the Sanskrit *vyavahāraka*, the literal meaning being trader or merchant. It is used in the *LP* in the sense of both money-lender and merchant. Document No. 71 specifically tells us of the son of a merchant who borrowed money for the business of money-lending. In most documents the creditor is usually a merchant who lends out his money on interest. Lallanji Gopal points out that 'the documents in *Lekhapaddhati* indicate that deeds were drafted with a view to emphasizing the prerogatives of the creditor, but there is hardly anything protecting the debtor from exploitation'.[61]

The creditors debtors and sureties in these documents belong to the Śrīmālī, Pragavate, Vayada, Oswal and Gurjara castes. These are sub-divisions of Banias.[62] The names of the sub-divisions are often derived from the places of origin of the castes. The Śrīmālīs take their names from the town in Marwar called Shrīmāl, which is now called Bhinmal.[63] Tod writes of Shrīmāl and other Marwar towns that these 'are on the high road to Cutch and Gujarat, which has given them from the most remote times a commercial celebrity—very wealthy

*mahājan*s or merchants used to reside here but insecurity both within and without has much injured these cities, the first of which has its name Mal from its wealth'.[64] According to Nando Lal Dey, Bhinmal was the capital of the Gurjaras from about the sixth to the ninth century A.D.,[65] while Commissariat suggests that it remained their capital up to the thirteenth century.[66]

The caste name Oswal is similarly held to be derived from the town Osi in Marwar.[67]

Coinage

Much about the currency system in Gujarat under the Chaulukyas can be learnt from *LP* documents. These documents mention different types of coins, namely *dramma* and its variants; *rūpya* or *rūpaka*; and *ṭaṉkā*. Contemporary Jain *Prabandha*s, inscriptions, and other literary accounts also furnish information on the coins current during the thirteenth and fourteenth centuries in Gujarat;[68] and these sources provide fairly good corroboration of the *LP*'s statements.

The frequent mention of *dramma* in the *LP* documents shows that it was the basic coin, preferred over all other coins. The term *dramma* (sometimes abbreviated to *dra* or *drā*) is derived from the Greek *drachma*. In India, it conformed to the Roman weight standard for a *drachma*.[69] The '*dramma* originally and mostly denoted the Indo-Sassanian or Gadhiya coins, which followed the *drachma* weight standard'.[70] It has been suggested that *dramma*s were coins of different metals such as gold, silver and copper,[71] but the term *dramma* was mostly used for silver coins.[72] Dalal notes, however, that the *dramma* mentioned in the *LP* documents was a copper coin.[73]

The *LP* documents record various type of *dramma*s, such as *vīsalapriya* or *viśvamalla dramma*s (D.Nos 25, 47, 52, 55, 56, 58, 69), *pāraupatha* or *pāraupathaka dramma*s (D.Nos 47, 48, 57, 55) and *dvivallaka dramma* (D.No. 56). These may be considered separately.

Evidence of Pārautha or Pāraupathaka *dramma*s[74] is furnished from epigraphical and literary sources as well. Jinpāla refers to the use of *parauthas* at *Anhillapattana* during the reign of Durlabharaja, A.D. 1010–22.[75] In the *Purātan Prabandha Saṁghraha,* these coins are called *pārūthaka* or *pārūtha*.[76] In the *LP* these are shown as struck at the mint of 'Shrimalla'.[77] An inscription of Aparaditya II (Śaka 1106/A.D. 1184), found at Lonada near Kalyan, mentions 100 *pauruthi dramma*s and *pāruttha dramma*.[78] Another inscription of the Silahara ruler Somesvara of A.D. 1206 from Chhanje (Konkan) refers to *poruttha dramma*.[79] From these references it seems that the *pāraupatha dramma* struck in Gujarat circulated in the area extending from southern Rajasthan to northern Konkan during the thirteenth century. These are specified as the specie in which loans should be paid or repaid, and are to be such as are current in the market as well as thrice-tested.

V.S. Agrawala is of the opinion that the *pārupātha dramma* was the same as *bhillamala dramma* or *śrīmāliya dramma*.[80] The *LP* documents indicate that these coins were all minted at the Śrimāliya mint. In the *Purātan Prabandha Saṁgraha*, it is the *pārūthaka dramma*s which alone are said to have circulated in the kingdom of Jalor near Bhinmal.[81] (R.C. Agrawala notes, however, that no actual coins were found at Bhinmal at excavations there in 1954.)[82] At Bhīnmal (Śhrīmāla), not only were the *pārupāttha dramma*s minted, but also other types of *dramma*s such as *vīśvamallapriya dramma*s and *dramma* in general, if we go by the *LP*

documents. Dasharath Sharma has argued that *pāruttha dramma* was a silver coin, on the basis of the term *raukya* used in *LP* Document Nos 47, 56.[83] But the term *raukya* is used here for *rokaḍa*, which means 'cash' and, as Lallanji Gopal notes, *LP* documents generally refer to cash payment by this term.[84] No doubt the *LP* uses the adjectives *śreshṭha* or *śrīmala* before coin names, but Lallanji Gopal holds that no personal name is implied here, the adjectives simply suggesting a superior coin.[85] This view is confirmed by the evidence of *Purātan Prabandha Saṁghra* (p. 53), which equates eight *drammas* to one *pārutthaka dramma*.

In the *LP* these coins are also called *visalapriya dramma*. S. Deyell suggests that the *pārupātha dramma* was superseded by the *visalapriya dramma*.[86] In the inscriptions we come across references to *vīsalapriya, vīsalpari dra*, *visa* or *vīsalapari dra*.[87] Inscriptions show that these coins were also current in southern Rajasthan. No coin identifiable with the *vīsalapriya* has been found as yet.

Dvivallaka dramma, another variant of *dramma*, is also mentioned in the *LP*, and this coin also finds mention in the *Kharatara Gachchha Gurvāvali*.[88] V.K. Jain conjectures that these *dramma*s were generally used in connection with *yātra*s or pilgrimages in Saurashtra and the adjoining regions.[89] According to Lallanji Gopal, *dvivallaka drammas* may be explained as a sub-denomination of a *dramma*, weighing 2 *vala*s or 6 *ratti*s or 10.98 grains.[90]

Besides the *dramma* and its variants, the other coins recorded in the *LP* documents include the *rupaya* or *rūpaka*, and the *ṭaṇkā* (D.No. 11).

The words *raupya*, *rūpa* and *rūpaka* are found in both literary texts and inscriptions. The term *rūpaka* literally means having a form or figure and *rupaya* is also used in the early period for 'bright metal', that is, silver.[91] According to B.J. Sandesara, who published a commentary on *Gaṇitasāra* of Sridhara, five *rūpaka*s were equal to one *dramma*.[92] Here, then, the *rūpaka* was not only different from *dramma*, but also a coin of lesser value, and so could not have been made of silver. The *Līlāvatī* equates one *dramma* with 64 *kākini*s [eight copper coins equal to one *kākini*], and eight *rūpaka*s with one *dramma*.[93] The references to *suvaraṇa rūpaka*s in the *Rājataraṅgiṇī* (VI, 45, 52, 60, 66) and the *Kathā Sarita Sāgara*,[94] on the other hand, indicate that a *rūpaka* or *raupya* denoted silver coins as well. Kshiraswami, the commentator of *Amarakosha*, who probably belonged to the eleventh century, refers to a *karshapaṇa* as a silver *rūpaka*, whereas the copper one was called *paṇa*.[95] Hemachandra in the *Dvyāśrayakāvya* (twelfth century) refers to different types of coins, such as *bhāgaka*, *rūpaka*, *viṁśatika,* etc., the *viṁśatika* being held equal to 20 *rūpaka*s.[96] In the *Kharatara Gachchha Paṭṭāvali* (thirteenth century) there are references to six types of coins, namely *parutta, dramma*, *jaithal dvivallaka dramma*, *hema ṭaṇka* and *raupya ṭaṇka*.[97]

The *rūpaka*s are also mentioned in Jain literature. The *Bṛihat Kalpa Bhāshya* (thirteenth century) records that the price of a blanket ranged from 18 to 100,000 *rūpaka*s.[98] In the *Prithvīrāja Vijaya Mahākāvya,* the *dramma*s struck by king Ajayadeva are called *rūpaka*s.[99] The *rūpaka* or *raupya* often denoted a specific silver coin and as such was distinguished from the *dramma*. The Ahar inscription of VS 1010 (A.D. 953) records a tax of one *drama* on the sale of an elephant and two *rūpaka*s on the sale of a horse.[100] In Sodhavali-vav inscription at Mangarol (VS 1202/A.D.1145) the *rūpaka* is abbreviated to *rua* or *ru*.[101] The Timana Chaulukya grant of VS 1207 refers to religious gifts in terms of *rūpaka*s and *dramma*s.[102] The Anjeri plates of Bhogasakti of as early as A.D. 710–11 refer to the *rūpaka*s of Krishnarāja.[103]

These are to be identified with the silver coins weighing between 30 and 34 grains, struck by Krishnarāja of the Kalachuri dynasty. It is evident that silver coins of the Kalachuri Krishnarāja remained in circulation for 150 years after his death. V.V. Mirashi is of the opinion that they were called Krishnarāja *rūpaka*s to distinguish them from the *rūpaka*s of the Kshatrapas, Andharas and Traikutakas, which were similar in fabric.

That the *ṭaṇka* was the common name of a coin, whether general or of a specific type of metal, can be inferred from the coins of Mahmudpur (now Lahore) struck by Maḥmūd of Ghazni, which have the name *dirham* in the Kufic legend and *ṭakā* (or *ṭaṇkā*) in early Nagari.[104] Thakkura Pheru, in his *Gaṇitasāra,* equates 50 *dramma*s with one *ṭaṇka*.[105] There are references to *hema ṭaṇka* and *raupya ṭaṇkā* in the *Kharatara Gachchha-bṛihada Gurvāvali*.[106] It seems that both gold and silver *ṭaṇka*s were in circulation.

SOCIETY

Caste

The *LP* documents naturally accord a prominent position to the caste system. The term *chaturavarṇa* (four castes) occurs again and again.[107] More interesting, perhaps, are references to sub-divisions (designated *jāti*s) of Brahman and Vaishya castes such as Nagara, Modha, Pragavata, Oswala, Śrīmālla, Divedi, Vyasa, Bhaṭṭa and Saṇghavī. Document No. 24 refers to the presence in a small village of the 'five artisans' (*pañcha-kārūka*), of which the professions of three are given: *sutradhāra* (mason), *lohkāra* (ironsmith) and *kuṁbhakāra* (potter). Document No. 45 mentions the castes of weaver and goldsmith.[108]

There are indications of untouchability as well. Document No. 6 prescribed that the *mātaṇga* (also known as *chāṇḍāla*) should not keep cows in their houses and *Bhaivaḍa* (members of a shepherd community) and *Mehakula* (who performed menial tasks) should live only in the forest. The *Śūdra*s were also considered outside the pale of what might be called civil society: Document No. 4 thus pairs *Śūdra*s and thieves together.

Women Slaves

Four documents of *LP* (D.Nos 58–59, each Doc. No. attached to two documents) record the sale of female slaves. The *Brihaspati Smriti* prescribes that a female slave 'could never be acquired and possessed without a written deed (title)'.[109] This perhaps explains why the deeds of acquisition of slaves only concern women, not men, for whom a written deed was apparently not required.

From these documents it transpires that female slaves could be acquired by capture, purchase, gift, or mortgage, and, as we learn from the phrase *vibhanga patra vidhi* (D.No. 60), by inheritance as well. One could also volunteer to become a slave. What is striking in these documents is the amount of work, both domestic and in the field, both 'clean' and menial, that the slave women were required to perform, and how much they were made subject to the master's will. No relief of any kind was promised to them in the deed setting forth their duties. The documents are indeed a frightening testimony to what cruelty such hapless victims of natural disasters or accidents of war could be subjected to.

The picture that we get from our sources, especially the *LP*, shows that there was more to the economy of Gujarat than mere institutions of 'Indian feudalism'. There was also a mercantile spirit, cold, calculating and often pitiless, at work, linked to a fairly brisk trade and an extensive system of finance and credit. The oppressed condition in which most peasants lived and the inhumane treatment of domestic slaves formed parts of the underside of an economic order tightly controlled by a military aristocracy and moneyed merchants.

NOTES AND REFERENCES

1. On the history of Gujarat during this period, see Majumdar's *Chaulukyas*. Though a little dated now, it is still a serviceable text.
2. The text was edited by C.D. Dalal and G.K. Srigondekar in Gaekwad's Oriental Series, XIX, Baroda, 1925. It has been translated by Pushpa Prasad, *Lekhapaddhati: Documents of State and Everyday Life from Ancient and Early Medieval Gujarat*, New Delhi, 2007, where in the introduction, pp. 1–5, the problem of the dates furnished in it is discussed in some detail. Since the numbers assigned to documents in the Baroda edition are also followed in the translation, it has been found convenient to refer to the documents by these numbers, which will enable the reader to trace the reference in both text and translation.
3. These are the dates given in the editors' MS 'A'. Bhagavan Lal Indraji determines the time of compilation to be Saṁvat year 1288 (A.D. 1238), given in *Yamala-patra* (D.No. 64) (*Gazetteer of the Bombay Presidency*, I [1], Bombay, 1896, p. 199).
4. Majumdar, *Chaulukyas,* pp. 220–21.
5. Sircar, *Indian Epigraphical Glossary*, pp. 272, 279–80.
6. Sharma, *Indian Feudalism*, p. 193.
7. See note in Document No. 2.
8. According to R.S. Sharma, this may imply that he was authorized to make grants only of cultivated land. This clause therefore reverses the old practice sanctioned by the *bhumichchhidranyāya*, according to which at first only waste land was granted to priests and temples (*Indian Feudalism*, pp. 29–30, 163).
9. R.S. Sharma gives a different interpretation of this charter (D. No. 6). According to him, the *rājaputra*s farmed out their villages to merchants and their associates who collected the revenue of the village (*Indian Feudalism*, p. 201).
10. See the detailed note on the terms under Document No. 6 in Prasad, *LP*, trans.
11. *Guṇā* means quality or skill; the term *guṇākshara* may mean a deed conditional on the performance of some function. D.C. Sircar's definition, 'a deed for a lease land by proprietors to tenants' (*Epigraphical Glossary*, p. 124), seems to unduly narrow down the sense.
12. Cf. Yadava, *Society and Culture*, pp. 169–222.
13. Sircar, *Indian Epigraphy*, pp. 342–43.
14. The title of *mahārāṇaka* is mostly found in inscriptions of the Kalachuri dynasty (Mirashi, ed., *Corpus Inscriptionun Indicarum*, IV [1], pp. 340–4, 419–23, 585–86).
15. The title *mahāmaṇḍaleśvara* is given to both the *rāṇaka* and the *rājaputra*.
16. Udayapur stone inscription of Samvat 1229/A.D. 1173 records that the king Ajayapala appointed Lavanayaprasād as governor of Udayapur (Ray, *Dynastic History*, II, p. 999; *Indian Antiquary*, XVIII, p. 347).
17. The term *dāni* corresponds to the *dānībhogbhāg*, which probably refers to the periodical supplies of fruits and other things in kind by the villages (Ghoshal, *Hindu Revenue System*, p. 256; Majumdar, *Chaulukyas*, p. 252). But Sircar suggests that *dani* was a perquisite of the collector (*Epigraphical Glossary*, p. 83).
18. The literal meaning of this is 'five elders of the family'.

19. *EI*, *XXII*, p. 47. In the Siyodani inscription of the Gurjara Pratiharas, this term occurs five times (*EI*, I, p. 173); and quite frequently in Chaulukyan inscriptions too. See *Poona Orientalist*, III, p. 21; *Indian Antiquary*, XI, p. 241.
20. In the Anavada inscription, it is stated that the *pañchakula* of Palhanpura were appointed by the king (Bhandarkar, ed., *Indian Antiquary*, XLI, p. 20). Dasharatha Sharma suggests that *pañchakula* are mentioned mostly as *tanniyukta*, that is, appointed by the rulers, whose name precedes the word *tanniyukta* (*Early Chauhan Dynasties*, p. 204). Somadeva in *Nitivākyamṛita* (p. 49) assigns different functions to members of the *karaṇa* or *pañchakula* of what appears to be the revenue department: one member received the amount; the second recorded it in a register; the third sealed it; the fourth deposited it in the treasury; and the fifth exercised general supervision (Cf. Mirashi, ed., *Corpus Inscriptionum Indicarum*, IV [I], p. cxliv).
21. Sircar has explained this term as meaning 'a city in which there are five leading men or fivefold people of the town' (*Indian Epigraphical Glossary*, p. 231). The Anavad inscription of Sarangadeva (Saṁvat 1348) indicates that *pañcha mukha nagara* included Brahmans, who were also called Purohits, *mahājan*s (some of whom were *sādhu*, *śreshṭhī*, *ṭhakkura soni*, and *kaṁsakār*), *vānijayakār*s (*vanjaras*) and *nau-vittaka*s (*Indian Antiquary*, XLI, pp. 20–21).
22. Sircar too has the same opinion (*Epigraphical Glossary*, p. 182).
23. Sharma and Shrimali, eds, *Comprehensive History of India*, IV (1), p. 719. V.V. Mirashi says that *mahaṇṭaka*s performed the same duties as *mahattrā*s (*Corpus Inscripitonum Indicarum*, IV[II], pp. 395–96).
24. *Journal of Numismatic Society of India* (*JNSI*), XXII, p. 104.
25. Here the term *viṁśopikā* is used in the sense of land measure. According to D.C. Sircar it was a *biswā* or a twentieth part of the *bīghā*, the standard measure of land (*Indian Epigraphy*, p. 428). The editor of the *LP*, however, suggests that *viṁśopaka* was the *bīghā* itself, a measure of land equal to 20 *vāsā*s (Hindi *biswās*), (*LP*, p. 106).
26. The term literally means a householder. See Monier-Williams, *Sanskrit English Dictionary*, s.v.
27. Thakur and Aounshuman, *Peasants in Indian History*, I , p. 204.
28. Document No. 22, *LP*, p. 16.
29. It seems that leather was in considerable demand. Inscriptions of Kumārapāla's feudatories contain orders for banning the slaughter of animals on certain days and imposing a fine on those who violated this rule. See Peterson, *Prakrit and Sanskrit Inscriptions*, pp. 172, 205; *EI*, XI, p. 44.
30. Keith, *Sanskrit Literature*, p. 173.
31. Al-Idrīsī, *Nuzhat al-Mushtāq fī Ikẖtarāqu'l Āfāq*, p. 58, extracts concerning India and neighbouring countries; Elliot and Dowson, *History of India*, I, p. 87.
32. Document No. 5, *LP*.
33. The literal meaning of *pratisārika* is gate-keeper and watchman (*Indian Antiquary*, VII, p. 7). This term also occurs in the Kadi grant (A.D. 1230) in connection with taxes levied on the goods of the merchants of Salakhanpuri (*Indian Antiquary*, VI[6], p. 202).
34. *Volāpika* was an officer in charge of collecting the tax called *volāpana* or *vulāvi*. In Gujarati the term has the form *valāman* or *vulāviya*. *Volāpana* was collected from merchants on their goods (Sircar, *Epigraphical Glossary*, pp. 380–81; and Majumdar, *Chaulukyas*, p. 236).
35. Document No. 16, *LP*.
36. *Mūḍe, mūḍo* or *mūḍā* is a measure of capacity equal to a hundred '*maund*s'. (Balsare, *Gujarati–English Dictionary*, s.v.)
37. Vardhman *pathaka* may be identified with modern Vadhawan on the northern branch of Bhogava river, an ancient place in Saurashtra, according to local tradition, which speaks of Vala and Wadhawan (See Forbes, *Ras Mālā*, I, p. 164).
38. Since the same merchant could not have been conveying his goods in 744 as well as 1230–31, the earlier date must be fictitious.
39. *Maṇḍapikā*, literally meaning an open hall shed or 'pavilion' (Monier Williams, *Sanskrit–English Dictionary*, s.v.). The narrow sense of a custom house is proved by various passages in inscriptions

(*Epigraphia Indica*, I, pp. 7, 117, 166; Ghoshal, *Hindu Revenue System*, pp. 238–39, 294). Buhler suggests that it is derived from the Prakrit word *maṇḍavika*, *maṇḍaba* or *māṇḍapa*. In Marathi the term *māṇḍavī* stands for 'custom house' (Molesworth, *Marathi–English Dictionary*, s.v.)

40. A well-known measure of weight in general use. The Indian *man* ('maund') used to vary in value in different places.
41. Since the documents relate to the same *man*, there must be some error in their dates, which, as given, separate them by over 400 years.
42. Marco Polo, *Ser Marco Polo*, II, p. 368.
43. Amīr Ḥasan Sijzī, *Fawā'idu'l Fuwād*, pp. 201–02.
44. The 'island' mentioned in this document as the destination to which the slave could be sent was the Hormuz island.
45. Hirth and Rockhill, trs, *Chau Ju Kua*, p. 92.
46. Marco Polo, *Ser Marco Polo,* II, pp. 393–94, 398.
47. Cf. Marco Polo*, Ser Marco Polo*, I, pp. 107–22, and II, pp. 340, 345, for export of horses from Hormuz to India.
48. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 48.
49. *Epigraphia Indica*, XXXIV, pp. 141–50.
50. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 48.
51. Ẓiyā Baranī, *Tārīkh-i Firozshāhī*, pp. 251–52.
52. For the information on credit practices in *LP* documents, see Majumdar, *Caulukyas*, pp. 275–85; Gopal, *Economic Life*, pp. 161–78; and Jain, *Trade and Traders*, pp. 190–208.
53. Kane, *History of Dharmaśāstra*, , III, p. 418.
54. Manu, VIII, 151. Gautam XII, 28; Yajnavalkya, II, 39. Cf. Kane, *History of Dharmaśāstra*, III, p. 422.
55. The rule of *dandupat*, as expressed cryptically by Manu (VIII, 151) and Gautam (XII, 28), is that 'the amount of principal and interest recoverable at one time in a lumpsum cannot be more than double of the money lent'.
    Cf. Kane, *History of Dharmaśāstra*, III, pp. 423–25; Majumdar, *Chaulukyas*, p. 276.
56. Cf. Majumdar, *Chaulukyas*, p. 282.
57. *Huṇḍikā*, modern *huṇḍī*. The term *huṇḍikā* for bill of exchange occurs in Kalhaṇa's *Rājataraṅgiṇī*, pp. 266, 275, 302, which was composed about A.D. 1150. S.R. Sarma recently reviewed the Bakshali manuscript edited by Takao Hayashi, which mentions certain rules called *huṇḍikāsamyanyana*. The editor has assigned this manuscript tentatively to the seventh century (*Aligarh Journal of Oriental Studies*, III[2], pp. 156–58). Several examples of *huṇḍikā* are mentioned in *Loka Prakāsha* of Kshemendra. See Pushpa Prasad, *'Huṇḍikā* Documents from *Loka Prakāsha*', *Proceedings of the Indian History Congress*, Gorakhpur, 1989, pp. 124–31.
58. According to Majumdar (*Chaulukyas*, p. 280), the *bhaṭṭaputra* were probably junior judicial officers, whose permission was required to realize repayment of loan with interest. In the same document the term *adhipāla* is used for a person enjoined to effect the recovery of a loan with interest. Lallanji Gopal holds that the term *adhipāla* in the deed is used for the surety (*Economic Life*, p. 165).
59. Sachau, *Alberuni's India*, II, p. 150.
60. The literal meaning of the term *sādhu* is pious ascetic, but it is also applied to a respectable trader or merchant. H.H. Wilson thought that *sādhu* is a sanskritized form of *sāhu* or *sāhukāra* (*Glossary of Judicial and Revenue Terms*, pp. 450, 453). According to V.K. Jain, it became one of the titles of those merchants who joined one of the reforming sects (*Trade and Traders*, p. 219, *fn*. 78). The form *sah* or *sahu* might also have been formed under the influence of Persian *shāh*, king, used as an honorific expression.
61. Lallanji Gopal, *Economic Life*, p. 165.
62. Russell and Hira Lal, *Tribes and Castes*, II, pp. 160–61.
63. This town is situated in Jaswantpura in Jodhpur district about 105 miles south-west of Jodhpur city. An earlier reference to Bhinmal is found in Xuan Zhuang's account. Beal transliterated the Chinese form of the name as Balmer or Barmer, *Buddhist Records*, II, pp. 269–70.

64. Tod, *Annals and Antiquities*, III, p. 1269, *fn*. 3. Since *māl* is a Persian word, the popular etymology seems to be wrong.
65. Dey, *Geographical Dictionary*, pp. 192, 224.
66. Commissariat, *Gujarat*, I, pp. xxxviii–xxxix.
67. Tod, *Annals and Antiquities*, II, p. 127.
68. In the *Dvyāśrayakavya* (twelfth century) of Hemachandra, the name of the coins are given as *bhāgaka rūpaka*, *dramma*, *viṁśatika*, etc. The *Prabandha chintāmaṇi* (fourteenth century) refers to *dīnār*, *nishka*, *dramma viṁśopaka* and *ṭaṉka*. (*JNSI*, XVII, pp. 79–81; 84, 94; XX, p. 10). The old Gujarati commentary on *Gaṇitasāra*, which was copied down in Anhilawada in VS 1449/A.D. 1392 by Rajakiriti Misra, indicates that the names of many coins, weights and measures mentioned in the *Gaṇitasāra* were current all over Gujarat and Marwar. The manuscript has been published along with notes by B.J. Sandesara, *JNSI*, VIII, Pt. 2, 1946, pp. 138–46.
69. The term *dramma* occurs in an inscription from Marwar (Gupta Saṁvat 289/VS 665/A.D. 608, *EI* XI, pp. 299 ff) and also in *Āvaśyakacūrṇī*, a Jain work of the seventh century. U.P. Shah, 'Numismatic Data From Early Jain Literature', *Journal of M.S. University of Baroda*, III, 1954, pp. 56–57; R.C. Agarwal, 'Dramma in Ancient Indian Epigraphs and Literature', *JNSI*, XVII(2), p. 64.
70. Gopal, *Economic Life*, p. 193.
71. R.C. Agarwal, *JNSI*, XVII(2), 1955, pp. 76–79.
72. Cf. Bhagwanlal Indraji, *JBBRAS*, XLI, pp. 325–26, V.V. Mirashi, *JNSI*, III, pp. 36f.; *Corpus Inscriptionum Indicarum*, IV, p. clxxxiv. It has been suggested that there were gold *dramma*s known after the name of king Visaldeva. This is evidently based on the Bhinmal Inscription of VS 1345 (*Bombay Gazetteer,* I[1], p. 488) which mentions *raukṁa visalpri dra* 2000. The term *raukaṁ* cannot be identified with gold, and could be the corrupt form of *raupya* which is used in *LP* (D.No. 47) for cash or in connection with transactions in coins in circulation.
73. *LP*, p. 101.
74. For this type of *dramma*, see Somsesha Bandopadhyay, 'Pārutha Dramma', *JNSI*, XXX, pp. 96–101.
75. *Kharatara gachchha- paṭṭāvali*, p. 2.
76. *Puratan Prabandha Saṁgraha*, pp. 53–128. Cf. Gopal, *Economic Life*, p. 198.
77. Shrimalla or Bhillamalla, is identified with modern Bhinmal, north of Anhilawada Pattan. It was governed by the hereditary *rājās* of Parmara lineage, and then was under the suzerainty of the Chaulukyas (Bhatia, *Paramars*, pp. 182–85).
78. *Journal of Bihar and Orissa Research Society*, XXIX(4), pp. 211–15.
79. *Epigraphia Indica*, XXIII, p. 280.
80. *JNSI*, XII, p. 201. See also Gopal, *Economic Life*, p. 199.
81. *JNSI*, XXV, p. 6.
82. *JNSI*, XVII, p. 74.
83. *JNSI*, XXII, p. 196.
84. Gopal, *Economic Life*, p. 199.
85. Ibid., p. 199.
86. Deyell, *Living Without Silver*, p. 113.
87. *JNSI*, XVII(2), pp. 72–73.
88. *Khartara Gachchha Gurvavali*, pp. 75, 76, 79. See also *JNSI*, XXII, p. 197.
89. Jain, *Trade and Traders*, p. 152.
90. Gopal, *Economic Life*, p. 203.
91. See *JNSI*, XIX, pp. 115–20. In Kautilya's *Arthaśastra*, 1.2, 5.6.12, *rupya* seems to stand for silver coins, *tāmra-rūpa* for copper coins.
92. *JNSI*, VIII, p. 114.
93. *JNSI*, XXV, p. 12.
94. *JNSI*, XIX, p. 120.
95. *JNSI*, XIX, p. 109.
96. *JNSI,* XXII, p.197; Majumdar, *Chaulukyas*, p. 271.

97. *JNSI*, XXII, p. 196.
98. *JNSI*, XIV, p. 109.
99. *JNSI*, XIX, p. 117.
100. *Indian Antiquary*, LVIII, p. 162.
101. Acharya, *Historical Inscriptions*, II, p. 145.
102. *Indian Antiquary*, XI, p. 338.
103. Puri, *Gurjara Pratiharas*, p. 136.
104. Thomas, *Pathan Kings of Delhi*, pp. 47–48; *JASB*, Numismatic Supplement, 1930, p. 40.
105. Cf. Dasharatha Sharma, *Early Chauhan Dynasties*, p. 319.
106. *JNSI*, XXII, p. 197.
107. *LP*, D.Nos 2, 57, 59, 61.
108. It is not clear how barber and washerman are added to this list in Yadava, *Society and Culture*, p. 267.
109. *Bṛihaspati Smriti*, p. 312. The absence of any document dealing with male slaves in *LP* does not naturally indicate their non-existence. In the *Likhanāvalī* (pp. 42–48) of Vidyapati (edited by Indra Kanta Jha, Patna, 1969) belonging to the fourteenth century, there are a number of model documents for the sale and mortgage of male Śūdra slaves. They had to perform the work of tilling, carrying palanquins, water, luggage, and the like for their masters, who were usually *rāuta*s and *ṭhakkura*s.

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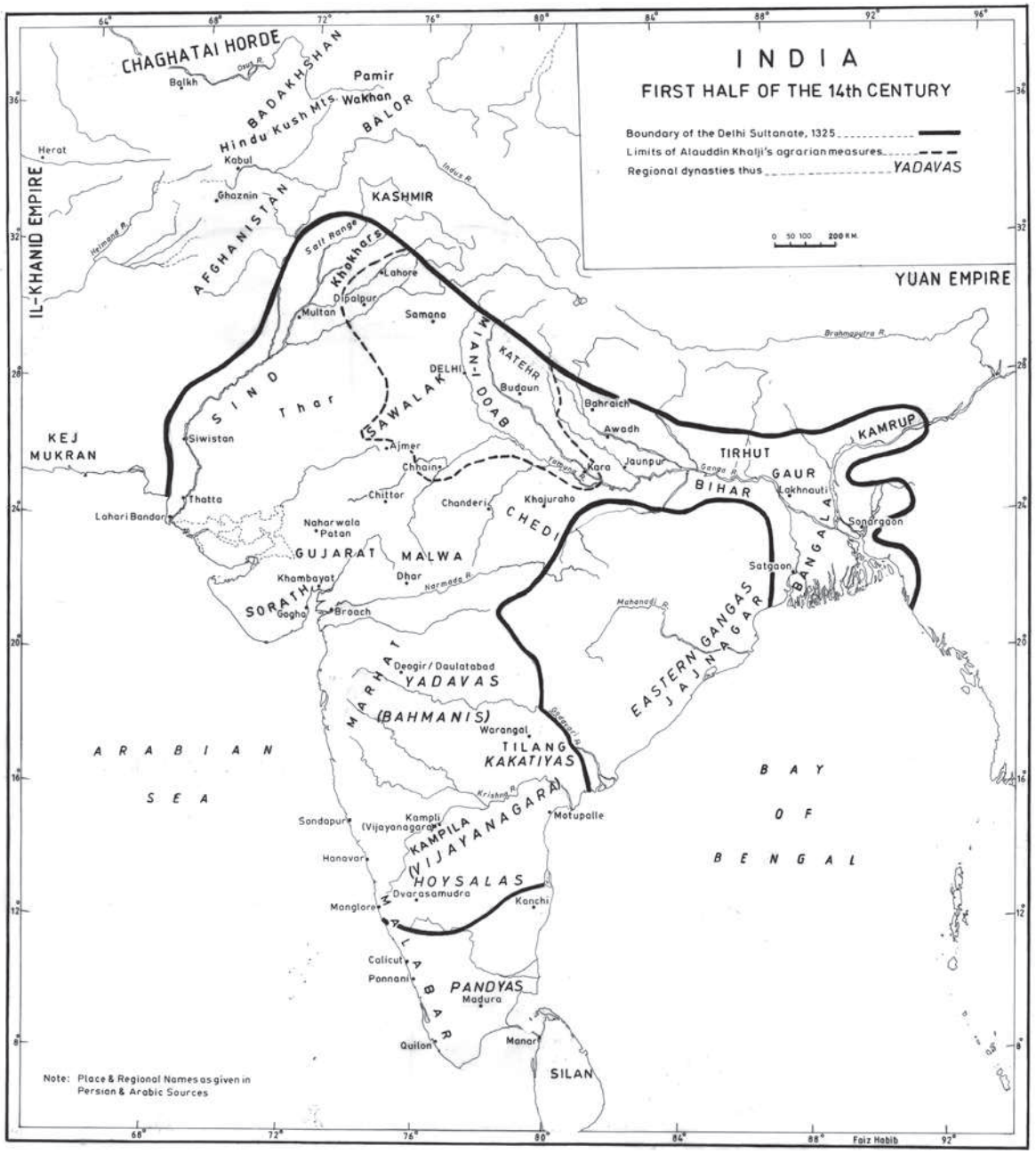
II

Economy of the Period of the Delhi Sultanate


INDIA
FIRST HALF OF THE 14th CENTURY
Boundary of the Delhi Sultanate, 1325
Limits of Alauddin Khalji's agrarian measures
Regional dynasties thus YADAVAS
0 50 100 200 K.M.
CHAGHATAI HORDE
IL-KHANID EMPIRE
YUAN EMPIRE
Balkh
Pamir
BADAKHSHAN
Hindu Kush Mts.
Wakhan
BALOR
Herat
Kabul
Ghaznin
AFGHANISTAN
KASHMIR
Indus R.
Helmand R.
Salt Range
Khokhars
Lahore
Dipalpur
Multan
Samana
DELHI
SIND
Thar
SAWALAK
KATEHR
MAN-I DOAB
Budaun
Bahraich
Awadh
Brahmaputra R.
KAMRUP
KEJ
MUKRAN
Siwistan
Ajmer
Chhain
Kara
Jaunpur
TIRHUT
Ganga R.
GAUR
BIHAR
Lakhnauti
Thatta
Lahari Bandar
Chittor
Chanderi
Khajuraho
CHEDI
Sonargaon
Naharwala
Patan
GUJARAT
MALWA
Satgaon
Khambayat
Dhar
Narmada R.
SORATHA
Gogha
Broach
BANGALA
Mahanadi R.
EASTERN GANGAS
JAJNAGAR
MARHAT
Deogir / Daulatabad
YADAVAS
(BAHMANIS)
Warangal
TILANG
KAKATIYAS
Godavari R.
ARABIAN
SEA
Krishna R.
Motupalle
BAY
OF
BENGAL
Sondapur
Kampli
(Vijayanagara)
KAMPILA
VIJAYANAGARA
Hanavar
HOYSALAS
Dvarasamudra
Manglore
Kanchi
MALABAR
Calicut
Ponnani
PANDYAS
Madura
Quilon
Manar
SILAN
Note: Place & Regional Names as given in Persian & Arabic Sources
Faiz Habib

CHAPTER 3

Forests, Deserts and Untilled Lands

Irfan Habib

It hardly needs stressing that we lack any precise means of determining the extent of land that had still not been brought under cultivation and habitation during the thirteenth and fourteenth centuries. There has been a question raised off and on as to whether, in earlier centuries, the level of precipitation was so considerably higher than today that the character and density of natural vegetation was qualitatively different from what it has been in recent times. Making use of such meteorological data for a period as recent as the mid-1920s, and of a fairly extensive amount of historical material, Ibadur Rahman Khan concluded that the climatic regime in the Indus basin in the fourteenth century was not very different from what it was in his own day.[1] Archaeoclimatology has now gathered sufficient data, it appears, to justify reconstructions of 'modelled' precipitation curves and volumes of river discharge over very long periods. The 'modelled' graphs of annual precipitation built up for Sahiwal near the Indus site of Harappa covers the whole Halocene period and beyond, but we are naturally interested in the section of the curve between the years 1000 and 2000. The annual precipitation is hypothesized to have remained below 280 mm between AD 1000 and 1500, around which year it crossed into the 300 mm-plus zone, but fell to well below 280 mm before 2000.[2] In other words, the inferences that I.R. Khan had drawn from conventional evidence are found to be consistent with the speculations of archaeoclimatology.

For the actual extent of forest in Sultanate times, we need to seek other kinds of evidence. One indication of the extent of area that was still left a wilderness is offered by references to the habitats of certain beasts which could not co-exist with man and are today extremely rare—indeed, in many cases, extinct—in the areas concerned. Ibn Baṭṭūṭa encountered a rhinoceros immediately on crossing the Indus near Multān and then yet another a little further on the road. Towards the east, his party was attacked by a rhinoceros within a thicket of bamboo canes near Bahraich (north-east UP).[3] The rhinoceros was still found along the banks of the lower reaches of the Kabul River towards the Indus and in the Bhera country in the north-west, as well as along the Saru River (now an abandoned channel) near Bahraich early in the sixteenth century.[4] In Akbar's late years, however, its presence was reported within this region only from the *sarkar* (district) of Sambhal (modern-day Rohilkhand).[5] In the

seventeenth-century sources, references to this animal in these tracts become harder to trace.[6] Clearly its habitats were continuously reduced and then eliminated by human incursions.

Another wild animal needing extensive forest cover is the tiger. In the late thirteenth century, it posed a danger to wayfarers between Badāūn and Delhi, unimaginable perhaps only 200 years later.[7] In the late fourteenth century large numbers of wild asses (now confined to Cutch) roamed in what is described by 'Afīf as a large waterless tract between Dīpālpur and Sarsati (Sīrsa), centred on Abohar, thus extending over large portions of south-eastern Panjab and south-western Haryana.[8] The same source tells us that Fīroz Tughluq (1351–88), who hunted wild asses in this steppe-like tract, turned to the district of Badāūn and Anwāla (Aonla) when he wished to hunt the gaur and the wild buffalo, both found in what was then a densely forested area.[9] Neither the gaur nor the wild buffalo appear to have been observed in this tract in Mughal times, although the wild buffalo was still to be found in Awadh.[10]

What could be inferred from these references to wild beasts in tracts where they are long since extinct is also underlined by specific descriptions of desert and forests in different tracts. Thus, of the large areas of Haryana and south-eastern Panjab where Fīroz Tughluq planned his canals, Baranī says that these 'contained wastes and deserts, without pond or well'. Owing to the lack of water, peasants lived not in huts but on carts, so that they could move with their cattle whenever the supply of water was exhausted in one tract, such cart-settlements being called *talwandī*.[11] 'Afīf, describing the large territory that was the habitat of the wild ass, says it was such a desert (*be-āb*) that even if one dug 100 *gaz* (about 50 metres), one failed to find water.[12] Such desert conditions were also found around Hisār Firoza (Hissar), where before Fīroz's canal brought water to it, a jar of water was sold at the price of four *jītal*s (copper pieces) to travellers.[13]

While there was such an extensive desert or scrubland to the west and north-west of Delhi, forests abounded in the other directions. Baranī tells us that in the time of Balban (who reigned from 1266 to 1287), there were dense forests in the neighbourhood of Delhi, especially towards the south-west (the 'Meo' country).[14] There were forests in the Doāb (country to the east of Delhi, between the Yamuna and the Ganga) where refractory elements took refuge in the time of Balban; and village headmen did the same, when overtaxed, during the reign of Muḥammad Tughluq (1324–51).[15] Conditions in this tract were thus quite different from those towards the end of the sixteenth century, where at least in central Doāb the high figures of measured area in the *Ā'īn-i Akbarī* suggest that there was little space left for forest or jungle, except in the Yamuna and Chambal ravines.[16] In the thirteenth century in Lower Doāb, along the Yamuna between Kara and Kalinjar, there were impenetrably dense forests that protected a powerful local chief of the area, who held sway there in 1248.[17] Across the Ganga, in Katehr (modern-day Rohilkhand), beyond Badāūn, there were again forested tracts;[18] and near Badāūn and Aonla there were extensive forests, as we have just noted.[19] A historian, writing in 1434, reported a forest 24 *kurohs* (about 48 kilometres) in circumference around Aonla.[20] This was cut down in subsequent centuries.[21]

The account above should not leave one with the impression that in the thirteenth and fourteenth centuries themselves there was no advance made against desert and forest. Famine and over-taxation under Muḥammad Tughluq had led to a retardation of agriculture in the Delhi region, which both Baranī and Ibn Baṭṭūta have described for us.[22] But then, in the following reign, not only do our sources indicate an extension of cultivation in Haryana

through Firoz Tughluq's extensive canal-building (see Chapter 4), but 'Afīf even claims (doubtless with much exaggeration) that cultivation expanded so much in the Doāb as to not let a cubit remain untilled, and all of its 52 *pargana*s became fully inhabited.[23]

The evidence we have presented is from a zone embracing the cis-Sutlej plains and the upper Ganga basin, quite large in itself, but still only a part of the country. If what we can infer from our material about the conditions in this zone can serve as an illustration of those prevailing over the country as a whole, it would follow that cultivation was distinctly less extensive generally in the thirteenth and fourteenth centuries than it was in Mughal times, a time when there still existed large stretches of virgin and forested land. There is a curious indirect confirmation of this in the implications of a statement made by Ibn Baṭṭūṭa. If forests were, then, so extensive that timber was easily accessible to all inhabitants, it would be understandable that wood was directly made use of as fuel, rather than charcoal, which would otherwise be easier to transport over long distances. Ibn Baṭṭūṭa tells us that in India and Iran (Khurāsān and 'Ajam'), the use of charcoal was not known.[24] This could only mean that charcoal was not widely used in India, for the reason we have mentioned; for otherwise charcoal (*angisht*) was in fact known, and is mentioned as being in use by coin-assayers.[25]

On the major items of forest produce we have little direct or specific information. Conti, travelling between 1419–44, found 'red sandalwood' growing around Udyagiri ('Odeshchiria') and Chandragiri ('Chanderghiria') in southern Andhra; and Stefano in 1495–96 observed that it was so abundant in Coromandel that people built houses of it.[26] But this is about all.

NOTES AND REFERENCES

1. Ibadur Rahman Khan, 'Historical Geography of the Panjab and Sind', pt 1, in *Muslim University Journal*, I (2), Oct. 1931, pp. 176–88.
2. Rita P. Wright et al., 'Water Supply and History: Harappa and the Beas Regional Survey,' *Antiquity*, 82 (315), 2008, pp. 37–48.
3. Ibn Baṭṭūṭa, *Riḥla*, pp. 396, 495, tr. Gibb, III, pp. 596, 727.
4. Bābur, *Bāburnāma*, pp. 442–43.
5. Abu'l Faẓl, *Ā'īn-i Akbarī*, I, p. 514.
6. When in 1607 Jahāngīr extensively hunted near Bhera, along the Jhelum (from Girjhak to Mandana), he shot wild asses and numerous other animals, but no rhinoceros, though less than a century earlier Bābur, as we have seen, had noted this area as a haunt of that animal (Jahāngīr, *Tuzuk-i Jahāngīrī*, pp. 39–40).
7. Shaikh Nīzamu'ddīn's reminiscences (22 February 1316) in Sijzī, *Fawā'idu'l Fu'ād*, p. 254.
8. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 319–20.
9. Ibid., pp. 321–22, 326.
10. Abu'l Faẓl, *Ā'īn-i Akbarī*, I, p. 433.
11. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 567–68.
12. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 319.
13. Ibid., p. 125.
14. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 56–57.
15. Ibid., pp. 57, 479–80.
16. Cf. Irfan Habib, *Agrarian System*, pp. 13–14.
17. Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 58.
18. Baranī, *Tārīkh-i Fīrozshāhī,* p. 57.
19. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 321–22. This author accompanied Fīroz Tughluq on his hunts here.

20. Yaḥyā bin Ahmad Sihrindī, *Tārīk̲h-i Mubārakshāhī*, p. 187.
21. Cf. Irfan Habib, *Agrarian System*, p. 15 and *n.*
22. Baranī, *Tārīk̲h-i Fīrozshāhī*, pp. 473, 482; Ibn Baṭṭūṭa, *Riḥla*, p. 489, tr. Gibb, III, pp. 720–21.
23. ʻAfif, *Tārīk̲h-i Fīrozshāhī*, p. 295. He adds that in the Sāmāna territory (south-eastern Punjab), there were four villages to be found at each *kuroh* or three kilometres.
24. Ibn Baṭṭūṭa, *Riḥla*, p. 362, tr. Gibb, III, pp. 45–46.
25. ʻAfif, *Tārīk̲h-i Fīrozshāhī*, p. 348, where charcoal-sellers are also spoken of. Were wood to become scarce, cow dung could be another alternative to firewood; and this could somewhat weaken our argument here.
26. Major, *India in the Fifteenth Century*: Conti, p. 7; Stefano, p. 5.

CHAPTER 4

Means of Cultivation and Irrigation

Irfan Habib

PEASANT AGRICULTURAL PRACTICES

A Persian dictionary, the *Miftāḥu'l Fuẓalā*, written in 1468–69 in Mandu (Malwa) by Maḥmūd Shādīābādī, renders us much service by giving us the explanations of a number of words for instruments used in cultivation. It defines *aimar*, for which it supplies the 'Hindwī' equivalent, *phāl*, as the iron coulter which drives furrows into the land: the unique manuscript of the text also contains a drawing in which the iron coulter is shown attached to a wooden plough drawn by two humped oxen. A wooden share was in use too, for we are given a word (Persian, *kurāz*) specifically for it. The wooden board drawn by oxen in order to smoothen ploughed land is given a few Persian names (*takhta-i shiyāz* and so on), the Hindwī name being *barauta* or *barautha*.[1] The dictionary also has entries for the wooden hoe or digging stick (*ranba* [?], *kurāz*), the iron share to dig up the earth (*sipār*, *aimad*, *kāwāman*), the iron spade 'with handle' (*bel*), the yoke for a pair of oxen (*juft, labād*), and the iron sickle to cut the crop (*dās*).[2] The 'Hindwī' words for these are not offered, but the author, himself belonging to Malwa, clearly considered these tools to be in normal use in India. One very interesting piece of information comes to us from Barbosa, the acute Portuguese observer who was in India from 1500 to 1516. He found that in rice cultivation on the Karnataka coast, 'The ploughshare has a hollow in it wherein the rice [seed] is carried when the land is flooded, and as the share ploughs the rice goes on settling down under water and earth.'[3] This is possibly the earliest known reference to drill-sowing, a method practised extensively in Indian agriculture that excited much admiration among English observers in the nineteenth century.[4]

Artificial irrigation has been an important aspect of Indian agriculture. In the upper Gangetic basin wells formed the major means of such irrigation. When Muḥammad Tughluq found the Delhi territory and the Doāb ravaged by famine, his first response was to order the peasants to dig wells.[5] Indeed, when a canal was dug, one good result noted was that one could now make a baked brick well (*chāh-i pukhta*) by its side, and get water in the well at a depth of only four *gaz* (about 2 metres) for irrigating one's field or orchard.[6] The reference

to a *pucca* well reminds us that most wells must then have been *cutcha* or unlined wells, dug seasonally, a common practice in the area not many generations ago.

Wells and streams or ponds with water surfaces that are below the level of cultivated ground require devices to draw water upto levels from which it may flow down by itself into the fields. Early in the sixteenth century, Bābur tells us from his own observations in northern and north-western India that two principal ways of drawing water out of wells were employed here. The first device, which he had first witnessed at Bhera on the Jhelum in north-western Panjab, was found to be in use generally in the Lahore, Dīpālpur and Sirhind territories. This was the 'Persian wheel', with wooden wheels, earthen jars on the rope chain (potgarland) and wooden pin-drum gearing, worked by oxen. Bābur furnishes practically all the necessary details about how the apparatus worked.[7] It would seem that around 1515 the same device was being employed in Sind, here worked by camels, to irrigate gardens.[8]

If this device was so widespread in north-western India early in the sixteenth century, the question arises as to when it was first received in India. The use of the term *araghaṭṭa*, literally meaning a water wheel carrying jars (*ghaṭṭa)* tied to its spokes (*ara*), and therefore a noria, goes back to early times in India. But the first reference to the potgarland (*mālā*) is found only in the Mandasor inscription of AD 532, whereafter there are numerous references to the potgarland, turned by the operator's right hand, in Bāṇa's *Harshacharita*, in the early seventh century. But there is no mention anywhere of the gearing mechanism by which animals moving horizontally could rotate the vertical wheel that carried the portgarland. This essential part is also missing in the well-known Mandor freeze of the twelfth century, which is often cited as evidence of the existence of the Persian wheel. The wheel carrying pots is distinctly depicted here as being moved manually.[9]

Indo-Persian texts before Bābur also lack any definite reference to the gearing apparatus. Written in 1370–71, the anonymous *Sīrat-i Fīrozshāhī* contains a fairly detailed account of a well that Fīroz Tughluq rebuilt in Delhi within an embanked tank, and of the water-lifting appliances he furnished it with. These appear to have been in three sets; one consisting of a pulley-wheel (*bakra*) with rope to go over it and the water-bag at one end of the rope; a water-wheel turned by the hand to pull up a water-bag; and finally, a wheel carrying a potgarland (*uṣmūrī-i kūza-i dulāb*). No gearing or use of animal power in the case of the last device is even remotely suggested.[10]

Schioler's researches show that Ibn Sīda (d. 1066) in an Arabic encyclopaedia described a potgarland turned by a camel, ox or donkey, with the aid of a gearing mechanism (*manjanūn*). The potgarland turned with pindrum gearing was known to al-Jazārī, Islam's famous technologist (*c.*1206), who curiously enough designates the potgarland by the name *Sindī*, which may suggest that at least the potgarland, if not the gearing, had by that time become so common in Sind as to get the name of that province tagged on to it.[11] It is likely, though unproven, that pindrum gearing, which alone could enable animal power to be used for working the potgarland, reached India from the Islamic world during or after the time of al-Jazārī. One may then allow about two centuries at least for the complete 'Persian wheel' to obtain the great territorial spread that it came to possess by Bābur's time in the early sixteenth century.

The geared Persian wheel offered a continuous flow of water irrespective of depth, though naturally for greater depths greater tractive power (ox being replaced by camel, for

example) would be required. The diffusion of this device could not but have helped to extend and improve agriculture in the Indus basin, notably the Punjab.[12]

The Persian wheel being one of the two principal systems of water-lift described by Bābur, we may now turn to the other one. This device, based on the pulley, was, he says, in use at Agra, Chandwār (near Agra across the Yamunā) and Bayāna (east Rajasthan). A pulley (*ghaḷṭak*) was set upon a fork of wood over the well and a rope was thrown over it, one end of which, reaching into the well, had a water bag (*dalv*) tied to it, while the other end was tied to a yoke of oxen. The oxen, driven in a direction opposite to the well, lifted the water-bag, which was then emptied by the person minding the rope.[13] This device was a very simple one, not even involving a draw bar, and could go back to quite early times. It was in use within the fort of Tughluqabad to judge from the ruins of the structure over its reservoir.[14] It is to be assumed that the area where this system was in use was much larger than what Bābur assigns to it. It was, for example, also widely used in the Deccan.[15]

Kalhaṇa's (1149–50) references to the use of *araghaṭṭa* in Kashmīr may be considered here in passing. He says Lalitaditya in the eighth century set *araghaṭṭa*s on the Jhelam (Vitasta) river to distribute the raised water among villages.[16] In his own time a minister's wife also set up such water wheels.[17] These could possibly have been *norias* worked by the force of the river's own flow.[18]

On two occasions Ibn Baṭṭūṭa speaks of *nā'ura*s (*nawā'ir*) set up on rivers—at Sagar in the Deccan and in Bengal—to draw up water for irrigating fields and gardens.[19] *Nā'ūra* is the Arabic word from which historians of technology have framed the term '*noria*' for wheels carrying water-pots on the rim; but the word in Arabic and Persian seems to have possessed a fairly wide range of meanings. With respect to Bengal, Ibn Baṭṭūṭa says the *nā'ura*s reminded him of the devices set up on the Nile River, that is, presumably of the famous Egyptian 'shadoof'. What he saw must, then, have been the large wooden spoon-like poles that are lifted by men through stepping upon counter-beams. These are still in extensive use in Bengal and the peninsula.[20] On the other hand, it is also possible that the water was drawn from the rivers by oxen simply through the use of pulley-wheels, and this reminded Ibn Baṭṭūṭa of the *noria*-like water wheels of Islamic countries.[21]

CANALS

The Delhi Sultanate can lay claim to some importance in the history of Indian irrigation because of the canals that were laid out by the Sultans, especially by Fīroz Tughluq (1351–88). Baranī tells us that Sultan Ghiyāsuddīn Tughluq (1320–24) spent much time in digging canals and improving agriculture; but he does not mention any particular canal built by him.[22] It is otherwise with the works laid out by Fīroz Tughluq: Baranī and subsequent historians give us such details about them that we can broadly reconstruct the alignments of at least his major canals.

Before we do so, it is best to turn to the account of a failed project undertaken by the sultan. Its significance lies in the fact that it lets us have a glimpse of his topographic grasp, his ambitions and the scale of undertaking he was capable of embarking upon. Just above Ropar, where the Sutlej enters the plains, making its great bend to the west, it is joined by a tributary, the Sīrsa ('Sarsatī' of our sources), which, rising in the lower slopes of the Himalayas,

runs a course north-west-west through a fairly long valley between the Himalayas on the north and the Shiwaliks on the south. Fīroz Tughluq thought that if the Shiwaliks could be breached, this river could then be brought south into the east Panjab plains; it could, then, join the Ghaggar River after running past Sāmāna and Sunām, presumably in the channel of the present Choiya River. The sultan was informed that there was a hillock consisting mainly of earth, 200 *gaz* (about 100 metres) high, 400 *gaz* in width and some 4,000 *gaz* in length. Some time after 1360–61, Fīroz decided to excavate a breach through it and employed for the purpose some 50,000 men drawn from the mountains. In seven months' time, about 120 *gaz* of earth was removed, but then the project was abandoned, ostensibly because the Sultan had to go upon a military expedition, but probably because the task of breaching the hills proved to be quite beyond the available resources.[23]

While this half-finished project gives us a measure of Fīroz's ambitions in canal construction, it should be remembered that his effort in this sphere had begun much earlier. Baranī, writing in 1356, already speaks of his having dug canals to bring water to the forts at Firozābād (Firozshah Kotla, Delhi), Fatehabad, Hānsī and Sarsati (the present-day town of Sīrsa).[24] Baranī has, in fact, a most interesting passage on what changes these canals—'as big as large rivers'—could be expected to bring about in the area served by them.[25]

Baranī does not give us details of the courses of the canals that were laid out. But this omission is filled in part by the anonymous author of the *Sīrat-i Fīrozshāhī*, Shams Sirāj 'Afīf and Yaḥyā Sihrindī, our three other major authorities for the reign.[26] Yaḥyā says that the first canal that Fīroz Tughluq excavated was from the Sutlej River and ran for some 48 *kuroh*s (or about 140 kilometres). The canal is also mentioned by the *Sīrat-i Fīrozshāhī* and 'Afīf, but the name of its terminal point given by the *Sirat* and by Yaḥyā Sirhindī is so corrupted (Moklahar, Jajnar) in the manuscripts as to leave no possibility of our recovering the original name. One cannot, therefore, be certain about the course of this canal.

Yaḥyā Sirhindī tells us of a canal that Fīroz Tughluq drew from the Ghaghar River to run to Sarsati (Sīrsa) and then to Harnī Khera (not located). This was probably so aligned as to serve Fatehabad, the new fort that had been built by Fīroz.

The *Sīrat-i Fīrozshāhī* mentions the Tughluqshāh canal excavated from under the Pinjaur hills, and passing 'by the side' of the Ulughkhānī Canal to join the river Radhikā (?) that fell into the Yamuna at Wazīrābād, Delhi. One can trace from the old maps the channels which formed sections of such a course.

A canal called Fīroz-bāh (Fīroz-wāh) was excavated from the slopes of the Shiwaliks (Koh-i Sālora) to Hānsī and Hisār Fīroza (*Sīrat-i Fīrozshāhī* and Yaḥyā).[27] This presumably followed the course of the Chautang River: The village of Topra, where the Ashokan pillar transferred to Ferozshah Kotla, Delhi, originally stood, is said to have been situated on the banks of a stream called Jatān, 'which falls into the Firozbāh canal'.[28] The Chautang has many such tributary streams.

According to 'Afīf the Rajabwāh and the Ulughkhānī were two canals that took off from the Yamuna near Karnal, and ran for 80 *kuroh*s (about 240 kilometres) to Hisār Fīroza. Yaḥyā says that one of the canals originating in the Yamuna was drawn off from Budhi Jaun, that is, an old channel of the Yamuna, and this was probably the Budhi Yamuna channel north of Karnal, so that the Ulughkhānī could have had its headwaters in it. The *Sīrat-i Fīrozshāhī* mentions both these canals, the Ulughkhānī as crossing the Tughluqshāh canal and the

Rajabwāh as coming out of river Labhi (?) to run to Dhatak (a possible error for Dhatrat) where possibly the two canals joined.[29] One can infer from the *Sīrat-i Fīrozshāhī* that the joint canal (which the Fīrozsbāh also probably ran into) was called Fīrozshāhī. The entire network of canals thus created is said by ʻAfīf to have especially benefited the tracts of Jind, Dhatrat, Hānsī and Sapedam (Safidon).

According to a rather unexpected source, Fīroz also built a canal east of the Yamuna. Basing himself on records of Timur's sack of Delhi (1398), Yazdī says that Fīroz Tughluq had cut a canal from Kālī-nī (Kalinadi) River that was known as Haikan and passed east of Loni to fall into the Yamuna opposite Firozābād (Fīroz Shah Kotla) at Delhi. Haikan (which can plausibly be read as Hingan) is presumably the Hindan, which today receives the (upper) Kalinadi as a tributary. There is no connection today between the upper Kalinadi and the lower river of the same name, which rises a little below the point the former turns to follow a course leading to the Hindan. If Yazdī is right, Fīroz Tughluq is responsible for this turning away of the upper Kalinadi river from its ancient course. In this case he helped to irrigate a portion of the Doāb as well.[30]

The canals involved considerable work of excavation at the initial stage; but much work had probably to be undertaken at frequent intervals to clear the headwaters and remove obstructions at points downstream. The success of such maintenance was judged, says ʻAfīf, by the force and range of floods in the canals: Fīroz Tughluq was wont to appoint high officers, including ʻAfīf's father and uncle, to report on where in each season the flood waters had reached in the canals.[31]

The works involved much construction as well. ʻAfif says Fīroz Tughluq built a large number of dams, of which he mentions seven.[32] The last in his list, a notable bridge and embankment with sluices, survives at Wazīrābād, north of Delhi, which must originally have spanned the Tughluqshāh canal, mentioned by the *Sīrat-i Fīrozshāhī*. The nine-arch bridge is 47.5 metres in length and 5.1 m broad, and the solid bund 34.7 m. long, besides three arched bays containing the sluices.[33] The remains of this building having fortunately withstood the effects of time and human vandalism, and of the Satpula dam, also possibly in ʻAfif's list,[34] are suggestive of the scale of construction as well as the level of engineering that had been attained.

What Baranī and ʻAfīf tell us about the expected or actual impact of the canals can be summarized: first—and here we follow Baranī—the canals sedentized a large number of peasants. Previously, they used to live on carts with their families as they had to move every year to new grounds in search of shifting sources of water. Now, after the canals established firm lines of water supply, ʻthey and their women and children would be liberated from life under the carts'. ʻAfīf adds that previously in the area of Hisār Fīroza there was only kharīf cropping, since in rabīʻ no water was available. But now both harvests could be obtained owing to the coming of canal water. Baranī comments on the kinds of crops that could now be grown. Before the canals arrived, peasants only cultivated *moṭh* (inferior pulse) and sesamum, both of which are kharīf crops. But now, with canal water, they would be able to grow sugarcane, wheat and gram and increase the number of their cattle. Formerly, wheat, gram and sugar came from Delhi as expensive products, but now, locally grown or made, these could be partly consumed in the peasants' homes and partly exported to other places. Fruits of various kind too could be grown, together with the soil-enriching *bāqila* bean and

the opium-yielding poppy. People would, he predicted, soon be taking these products to Delhi to sell them there. ‘Afīf makes a similar statement about the new crops and fruits, especially mentioning sugarcane, both of the thick (*paunda*) and the ordinary variety.[35]

These benefits did not come without costs to the beneficiaries. Fīroz Tughluq obtained theological opinion that he was entitled to claim *ḥaqq-i shirb*, compensation for providing water, equal to one-tenth of the annual value of the produce of the irrigated lands. This special levy was collected (along with the land tax at rates fixed for freshly cultivated land) from all lands newly brought under cultivation through the canals. These lands were treated as the private possessions (*amlāk,* sing. *milk*) of the Sultan, yielding him two lakh *tanka*s (annually).[36]

Besides the state canals there were also locally dug canals or flood channels that were used by peasants to draw water for their fields. One such canal was built by a rich theologian Shaikh Shihābu’ddīn, who seeking to bring virgin land under cultivation at six *mīl*s (*kuroh*s or 18 km) from Delhi, and brought water from the Yamuna river.[37] ‘Ainu’l Mulk ‘Māhrū’, Governor of Multān in the earlier part of Fīroz Tughluq’s reign, expressly refers to a set of canals in that territory that were not dug at the cost of the sultan’s treasury, namely the Naṣīrwāh, Quṭbwāh, Khiẓrwāh. He insists that the burden of digging and clearing these canals must fall on land-holders through whose lands these passed. In the present case they were asked to aid (either by supply of labour or funds) a military officer who was deputed to supervise the work.[38] In another letter, after praising a headman for carrying out works on a royal canal (*jū-i shāhi*), ‘Ainu’l Mulk states that this man had now been charged with the work on maintenance (?*dāngī*) of the two canals, Hamarwāh and Qabūlwāh. All headmen and peasants of the particular localities were enjoined to carry out the work of *dāngī* under his supervision.[39]

The evidence about canals from the Punjab, Haryana and Doāb shows that these could have formed an important source of irrigation; however, just because of the details we have been able to assemble, we should not over-estimate their significance. Much of the larger portion of the agricultural land of the region remained outside the area served by them, continuing to be mainly dependent for irrigation on rain, and on wells and floods.

NOTES AND REFERENCES

1. *Miftāḥu’l Fuzalā*, Br. Lib. MS Or. 3299, ff.16a, 50a, 145a, 250a. The plough is shown on f.145a. *Phāl* (vars, *phār*, *phālā*) is still in use precisely for the iron share. *Barauta* or *barauta* is the same as *pharwaī*, for which see Zafaru’r Raḥmān Dehlawī, *Iṣtilāḥāt-i Peshawarān* (Urdu), VI, Delhi, 1942, p. 42.
2. *Miftāḥu’l Fuzalā*, ff11b, 67b, 87a, 139a, 160b, 250a, 254a, 257b.
3. Barbosa, *Book of Duarte Barbosa*, I, p. 192. The locality described was within ‘the seignory of Baticala’ (Bhatkal). The translator, in a perceptive remark, observes that in North India the seed-drill ‘consists of a hollow attached to the share and not of a hollow in the share itself’ (p. 192*n*).
4. In his official *Report on the Improvement of Indian Agriculture*, London, 1893, p. 223, John Augustus Voelcker held the ‘native’ seed-drill to be ‘wonderfully efficient’ and leaving little to be desired.
5. Ibn Baṭṭūṭa, *Riḥla*, p. 474, tr. Gibb, III, p. 700).; Baranī, *Tārīkh-i Fīrozshāhī,* p. 483.
6. ‘Afīf, *Tārīkh-i Fīrozshāhī*, p. 128.
7. Bābur*, Bāburnāma*, pp. 439–40; ‘Abdu’r Raḥīm’s Persian trans., MS of Akbar’s library, Br. Mus. Or. 3174, ff.376b–377a. For his observation of the Persian wheel at Bhera, see Mano’s edn, p. 330, and Or. 3174, f. 314b.

8. Mīr Ma'ṣūm, *Tārīk<u>h</u>-i Sind*, p. 110.
9. See, for a survey of the evidence discussed above, Irfan Habib, 'Joseph Needham and the History of Indian Technology', *Indian Journal of History of Science*, 35(3), 2000, pp. 252–57. It is possible to see in a statement of Bābur a hint that there were still potgarland wheels in use that were worked by hand, without the gearing mechanism. He says in a sentence (inaccurately rendered by both his translators, A.S. Beveridge and W.M. Thackston) that 'in certain cultivated lands, if there is need of it, men and women draw up water in jars (*ba-kūza*), and [so] supply water [to the fields]' (ed. Mano, p. 440; MS Or. 3174, f. 377a). He must be meaning here a manual working of the potgarland wheel, for he uses the same word *kūza* for the jars on the potgarland. In any case, one can hardly imagine (as the two English translators ask us to do) men and women carrying water in jars to irrigate a field!
10. *Sīrat-i Fīrozshāhī*, facsimile edn of the Patna MS, Khuda Bakhsh Oriental Public Library, Patna, 1999, pp. 168–69. It may be that since the well stood within a tank, there was no space available for using draught animals, and so the gearing apparatus could not be set up.
11. See Schioler, *Roman and Islamic Water-lifting Wheels*, pp. 58, 62–78.
12. The water bag drawn by rope over a pulley wheel by oxen (for which see our main text below) could only compete with the Persian wheel at medium depths, since if the water level was close to the surface, the draught animal would have little room to pull away and then turn back; on the other hand, if the depth was great, the oxen (usually in a pair) would have to traverse a correspondingly longer stretch down the slope into the ground and then come up, increasing not only their toil but also the time-interval before each outflow from the water bag could occur. This needs to be spelt out because the argument initially set forth about the contribution of the Persian wheel to an extension of agriculture in the Punjab (Irfan Habib, 'Technological Changes and Society, 13th and 14th centuries', in Chattopadhyaya, ed., *Studies in the History of Science in India*, II, pp. 828–37) has been criticized on grounds of the limited efficiency of that device, by Chetan Singh ('Well-irrigation and Socio-economic Change in Medieval Punjab', in Grewal and Pall, eds, *Pre-Colonial and Colonial Punjab*, pp. 77–95).
13. Bābur, *Bāburnāma*, , p. 440; 'Abdu'r Rahīm's Persian translation., Or. 3174, f. 377a.
14. See Habib and Thakur, eds, *Vedic Age*, pp. 6–7, for the antiquity of the pulley. For its use in the Tughluqabad fort to draw out water from the reservoir to irrigate farmlands, see Mehrdad Shokoohy and Natabie H. Shokooky, 'Tughluqabad: Third Interim Report', *BSOAS*, 66(1), 2003, pp. 37–38, with photograph (Plate XXI on p. 39).
15. It was observed, for example, by Francis Buchanan at Bangalore in 1800 (*Journey*, I, pp. 263–64).
16. Kalhaṇa, *Rājataraṅgiṇi*, IV, 191, tr. Stein, I, pp. 140–41, II, p. 428.
17. Kalhaṇa, *Rājataraṅgiṇi*, VIII, 2416, tr. Stein, II, p. 187.
18. Baron Charles Hugel saw in 1837 at Char Chinar, an island on the Dal Lake, Srinagar, 'a water-wheel in a perfect preservation, made of the incorruptible Himalayan cedar, the deodar. It raises the water from the Lake to the terrace' (*Travels*, p. 112). Like Kalhaṇa, Hugel fails to tell us whether it was a *noria* or potgarland wheel and how it worked.
19. Ibn Baṭṭūṭa, *Riḥla,* pp. 550, 615, tr. Husain, pp. 172, 241.
20. Observed at Bangalore and Kolar (Karntaka) in 1800, it is described at some length by Buchanan in *Journey,* I, pp. 263–64, 294.
21. Donald Butter found in 1837 that this was the case in Awadh where the river bank was high and firm (*Outlines*, p. 66).
22. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī,* p. 442.
23. *Sīrat-i Fīrozshāhī*, pp. 67–73. This work was written in 1370–71, and so only a few years after the failed project: its details seem to be accurate. The project is also described by Yaḥyā Sihrindī, *Tārīkh-i Mubārakshāhī*, pp. 130–31, where it is further stated that the object was to have the river through its new course irrigate the territories of Sihrind, Manṣūrpūr and Sunam—all of which places stand on the Choiya River (see Indian Atlas, Sheet 48, 1861, 'with additions to 1893'). Manṣūrpūr, shown on this sheet, has disappeared from subsequent Survey of India sheets.
24. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī,* p. 566. The construction of Hisār Fīroza had not yet apparently been decided upon.

25. Ibid., pp. 567–70. This passage is discussed in this section.
26. *Sīrat-i Fīrozshāhī*, pp. 209–10; ‘Afīf, *Tārīkh-i Fīrozshāhī,* pp. 127–31; Yaḥyā Sirhindī, *Tārīkh-i Mubārakshāhī*, pp. 125–26. Further page references for individual statements made in these passages of the texts are dispensed with when these are cited in this and the following paragraphs of our main text.
27. ‘Fīrozābād’, printed as the name of the canal in Yaḥyā’s text, is apparently a typographical error for Fīroz-bāh.
28. *Sīrat-i Firozshāhī*, pp. 180, 181.
29. As suggested by Abha Singh, ‘Irrigating Haryana: the Pre-Modern History of the Western Yamuna Canal’, in Irfan Habib, *Medieval India-1*, map opp. p. 50: Abha Singh was apparently not aware of the *Sīrat-i Fīrozshāhī* reference to Rajabwāh.
30. Sharafuddīn ‘Alī Yazdī, *Ẓafarnāma*, II, p. 86. Yazdī’s work was probably completed in 1424–25. Old maps show an old branch of the Yamuna rejoining the parent river opposite Firozshah Kotla (India Atlas Sheet 45, pub. 1895). This branch may well have been running, in its lower part, in the channel originally dug for the Hindan by Fīroz; the Hindan now falls into the Yamuna much further down.
31. ‘Afīf, *Tārīkh-i Fīrozshāhī,* p. 130.
32. Ibid., p. 330.
33. Zafar Hasan, *Delhi Province*, II, p. 290. The bridge in later times spanned the ‘Sabee-nullah’ running from Najafgarh Jheel, which may have come to occupy the lowest section of Fīroz Tughluq’s canal (see hand-drawn ‘Sketch of the Environs of Delhi’, 1807, printed by the Survey of India, 1989). Cf. M. Shokhooye and N.H. Shokhooy, ‘Tughlaqabad, Third Interim Report’, *BSOAS*, 66 (1), 2003, pp. 54–55. It is a pity that lack of knowledge of Japanese prevents me from using the rich material in Yamamoto et al., *Delhi,* of which Vol. III surveys waterworks.
34. In ‘Afīf’s list (p. 330), the name *band-i Wazīrābād* is preceded by *band-i Sahpana*, which is almost certainly a misprint, the dots misplaced and the *lām* sign shortened, for Satpula. It is referred to as the dam over the Sīrī stream, the main channel bringing water to Sīrī, in Baranī, *Tārīkh-i Fīrozshāhī,* p. 565, and is described by Zafar Hasan *Delhi Province*, III, p. 127, and by M. and N.H. Shakoohy, ‘Tughlaqabad, Third Interim Report’, *BSOAS*, 66 (1), 2003, pp. 52–54. It has 11 arches: seven in the middle are much larger and contain the sluices.
35. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 568–70; ‘Afīf, *Tārīkh-i Fīrozshāhī,* pp. 127–28.
36. ‘Afīf, *Tārīkh-i Fīrozshāhī,* pp. 129–30.
37. Ibn Baṭṭūṭa, *Riḥla*, p. 472, Gibb, III, p. 698.
38. He calls such canals ‘public canals (*anhār-i ‘āmma*), which [that is, whose waters] are shared by the people at large’ (*Insha’-i Māhrū*, pp. 204–05).
39. Ibid., p. 23. The term *dāngī* is not easy to explain. It cannot be from *dāng*, small copper money, owing to the phrase *kār-i dāngī*, work of *dāngī*. Is it from the Hindi *dāng*, hill, mound, high bank, and so refer to the work of taking mud out of the canal and piling it up on the bank in mounds?

CHAPTER 5

Crops

Irfan Habib

In the account that Ibn Baṭṭūṭa gives of Indian agriculture (mainly keeping in mind the territory around Delhi), he speaks admiringly of the two harvests obtained, explicitly using the terms kharīf (autumn) and rabī‘ (spring) for them. He tells us that the kharīf and rabī‘ crops were sown in the ‘same ground’ (*arẓ*) one after the other.[1] But in this statement he must surely be in error. With large stretches of virgin land available there should have been little need, except in some places close to the towns or limited tracts of exceptionally fertile land, to resort to double-cropping in the same field.[2] That much land was easily available everywhere is clearly assumed by Shaikh Naṣīru’ddīn of Delhi (1354–55), who, when speaking of the resources that a peasant requires to undertake cultivation, mentions ‘seed, cattle, chattel and tools’, but not land.[3] In another fourteenth-century text, it is said of an ascetic ṣūfī that in the district of Nāgaur (Rajasthan), he lived frugally on just one *bīgha* of tax-free land. He prepared half a *bīgha* for sowing with his own hand, and by the time the crop on this became ripe for harvesting, he similarly prepared the other half for sowing.[4] Thus, even when the land was so small in extent, the sufic peasant did not risk raising the subsequent seasonal crop on the whole of it.

The kharīf, being the season of rainfall and rising watertable, brought forth generally more plentiful harvests; and, as ‘Afīf noted, in some waterless tracts very little was sown for the rabī‘ harvest.[5]

Experience had long established for each crop the sowing season suited to it, and so, but for a few, all crops could be classified as either rabī‘ or kharīf. Ibn Baṭṭūṭa first mentions under kharīf crops millets such as *kuzrū* (modern name *kodon*), *qāl* (=*gāl*, Hindi *kangunī*, millet) and *shāmākh* (modern name *sawan*). Among the kharīf pulses, he lists *mūnj* (modern name *mung*), *lobiya* and *mūt* (modern name *moṭh*). Two other kharīf crops mentioned by him are sesame and sugarcane, while of rice, he says, ‘they sow it three times a year’. Among the rabī‘ crops he goes on to list wheat, barley, chickpeas and lentils (*‘adas* = masur).[6]

Also classifying them by the two seasons (*savāṇiyasāhā* and *āsāḍhiya*), Ṭhakkura Pherū in his *Gaṇita-sāra* (*c.* 1300) offers a more complete list of crops, for each of which he provides an estimate of produce per *viggahaya* or *bīgha* in *man*-weights, obtainable from the irrigated

lands (*varuṇa paesa*) of Delhi and Hansi and Narhar (in Haryana).[7] The list is of considerable interest in itself, and its rates appear largely to accord with those in an incomplete versified yield-table (*wafā-i ghalla*), given by 'Abdu'l Ḥamīd Ghaznavī in 1359, apparently for the Delhi area.[8] Whereas Pherū gives 45 *man*s per *bīgha* for wheat, Ghaznavī gives 40. If one takes the weight of the *man* worked out from the numismatic evidence on the one hand, and the size of the *bīgha* from the length of the *gaz* worked out from the data given for the dimensions of the Aśokan Topara-Delhi pillar in the *Sīrat-i Fīroz-shāhī*[9] on the other, then from a *bīgha*, equal to just 1,296 square metres, Pherū sets the yield at 45 *man*s or over 3.96 quintals (metric) of wheat. In Akbar's time the *Ā'īn-i Akbarī* allowed for a much larger *bīgha* (about 2,400 square metres) a produce of only 18 *man*s (of Akbarī weight, 4.52 quintals) on very fertile land and just 12 *man*s (3.01 quintals) on medium land.[10] There are thus problems with Ṭhakkura Pherū's and Ghaznavī's productivity figures, which greatly exceed the *Ā'īn-i Akbarī*'s figures, if one adjusts them to the same size of *bīgha.* One can only suggest that the official yield rates (*wafā*, for which see the section on Land Tax) given by Pherū and Ghaznavī were inflated in order to justify a higher tax demand, fixed as a share of the crop. Alternatively, there could be a major error in our calculation of the size of the fourteenth-century *bīgha*, which would need to have been much larger for Pheru's yield figures to match those of the *Ā'in-i Akbari*.

Despite these difficulties, the figures are still of some use: the yields of the various crops, indexed with wheat as equal to 100, can be taken as a rough indicator of their relative productivity in terms of harvested grain. This must necessarily be confined to food grains and pulses only. The table below compares Ṭhakkura Pherū's and Ghaznavī's figures with those of the *Ā'īn-i Akbarī* for the best lands, similarly indexed in terms of wheat.[11]

By and large, the various crops show a broad consistency in the three lists with only kharīf rice assigned an inexplicably low figure in Pherū's list. It has also to be remembered

TABLE 5.1: QUANTITY OF CROPS PER UNIT OF LAND (WHEAT = 100) AND OF CROPS UNDER KHARIF

(A) Kharīf Crops	*Ṭhakkura* Pherū	Ghaznavī	*Ā'īn-i Akbarī*
c.1300	*1359*	*1595*	
Kodron	133.33	–	94.44
Moth	53.33	–	36.11
Mung pulse	40.00	–	58.33
Kanguni pulse	44.44	40.00	36.11
China millet	33.33	–	88.89
Sawan millet	–	40.00	58.33
Rice	15.55	–	133.33
Juwari	88.89	–	72.22
(B) Rabī'			
Wheat	100.00	100.00	100.00
Winter rice	71.11	–	133.33
Masur	71.11	–	45.83
Gram	71.11	–	72.22
Barley	124.44	137.50	100.00
Kulatha pulse	31.11	40.00	58.33

that Pherū and Ghaznavī's rates relate to the Delhi–Hānsī area, and Abū'l Faẓl's rates (*rai'*) could, if they date back to Sher Shāh, refer too to the Delhi territory, but could as well be based on estimates for the area around Agra.

Regarding the distribution of major food crops, the few statements in our sources suggest largely what we would expect. No wheat grew in Bengal, rice alone being grown—a fact corroborated by Marco Polo.[12] On the other hand, in the dry zone of Sind, down to Sīwistān (Sehwan), Ibn Baṭṭūṭa saw only millet and green pea being grown, these being the main components of the diet of the local people.[13] We have seen that when Baranī and 'Afīf envisioned the impact of canals on the crops in what is today Haryana, they expected *moṭh* (inferior pulse) and sesamum, grown hitherto, to be supplemented by wheat, gram and sugarcane.[14] But where, in isolated spots, enough water could be obtained, through flood channels and tanks, rice was harvested: 'rice of an excellent sort' was grown at Sarsatī (Sirsa) even before the canals were laid out.[15] Around Kara and Manikpur on the Ganga, Ibn Baṭṭūṭa noted both wheat and rice being grown.[16] Indeed, even in the Delhi area rice of inferior varieties is likely to have been more abundant than wheat. Ibn Baṭṭūṭa tells us that the common article of food at Delhi was *khichrī* ('*kishrī*'), a mixture of rice with the *mung* (*mūnj*) pulse, cooked with ghee.[17] On the other hand, he observed wheat being abundantly cultivated around Dhār in Malwa.[18]

Among the major cash crops, Pherū lists both sugarcane and cotton. We may recall that both Baranī and 'Afīf refer to the peasants taking up the cultivation of the 'black' (or ordinary) variety of sugarcane as well as its 'paunda' or thicker, red variety when canal water began reaching their fields in Haryana.[19] Marco Polo speaks of the extensive cultivation of cotton in Bengal. In his account of Gujarat, he claims that the cotton came from cotton trees yielding good fibre for 12 years, and inferior (not turnable into yarn) thereafter. But this may mean only that some cotton was still collected from the perennial plant in Gujarat.[20] Pherū's listing of cotton among the field crops clearly suggests that the annual plant was by now well-established in most areas.

A crop that does not appear on Pherū's list—rather surprisingly—is indigo. This dye-yielding crop is at least as old as Mauryan times, Pāṇini referring to cloth dyed with indigo (*nīla*) and Katyayana treating *nīlī* as a plant.[21] A text on agriculture attributed to the celebrated Rashīdu'ddīn and written in the time of Ghāzān Khān (1295–1304) states that indigo had to be imported from India, although efforts had begun to cultivate it in Iran.[22] In the fifteenth century, Athanasius Nikitin (d. 1475) and Santo Stefano (1499) mention indigo as an important product and article of trade of Gujarat.[23]

It has been widely believed, on both linguistic and botanical grounds, that the cultivation of the opium-yielding poppy (*Papaver somniferum*) was introduced in India through the agency of the Arabs and immigrant Muslims.[24] In his Persian dictionary the earliest citations for the use of *afyūn* (opium) that Tek Chand 'Bahār' (1739) offers are from the Delhi poet Amīr Khusrau (d. 1325).[25] An explicit reference to the cultivation of opium-poppy (*khashkhāsh*) comes from that poet's contemporary, the historian Baranī.[26] On present showing, therefore, opium cultivation in India might not go back beyond the thirteenth century.

Black pepper, the major product of Malabar or Kerala, had long since entered world trade. It had already attained this status in the days of the Roman Empire in the early Christian centuries.[27] Marco Polo, visiting the Malabar ports in the late thirteenth century, took pains to explain to his Italian readers that pepper was a cultivated plant, 'regularly planted and

watered'.[28] Ibn Baṭṭūṭa, making a similar visit some 50 years later, gave a longer description of the plant (*falfal*), and the large quantities of it that were handled ('just as is done with the millet in our country') at Calicut.[29] While Nikitin (travelled between the years 1468 and 1474) mentions pepper at the head of the products of the country of Calicut, Stefano (1499) also enters a description of the shrub and the processing of its 'grains'.[30]

Ginger was another product of Malabar which attracted the attention of merchants: Nicoló di Conti (travelled between the years 1419 and 1444) offers a description of the cultivated shrub and the way its root was dried.[31] He also gives an accurate description of the cinnamon cultivated in Sri Lanka and the oil extracted from it, and includes it among the products of Malabar as well.[32]

Chewing or masticating the betel-leaf was an established part of the elite culture of ancient India.[33] Its quick adoption by the immigrant Sultanate nobility is attested by the suspicion contemporaneously entertained that a Turkish governor of Badaun, Sanjar Qutlugh, was served a piece of betel leaf containing poison, sometime in the 1240s.[34] During Balban's reign, a high officer of his, 'Imādu'l Mulk, not only habitually took betel-leaf one after another, but had 50 or 60 slaves of his constantly offering betel-leaf to those present in his *dīwān* (office).[35] Ibn Baṭṭūṭa, giving a description of the betel-leaf plants, adds that the gift of a betel was held to be a very gracious act, apparently because the leaf was expensive, since it could not be kept long and was difficult to transport.[36] Yet he found that the leaf was transported from as distant a place as Dhār, in Malwa, to the Delhi market.[37]

Ibn Baṭṭūṭa heads his description of what he believed to be specifically Indian fruits with an account of the mango. He mentions its reproduction by the planting of its kernel; presumably grafting was not practised.[38] A fruit tree which greatly excited comment from strangers was the coconut, abundant on the western coast, especially Malabar. Ibn Baṭṭūṭa gives a detailed description of how 'oil, milk and honey' were extracted out of it, and how out of the nut's fibre strong ropes could be made for binding ships' planks and for use as cables.[39]

The immigrations and closer contacts with India's neighbours on the north-west gave a certain impetus to the cultivation of certain fruits. When Muḥammad Tughluq adopted measures to improve cropping in the Doāb, the highest improvement was held to be the production of grape or date.[40] Pomegranates were also grown, and so also apples, oranges and melons.[41] Special attention appears to have been lavished on melons: Muḥammad Tughluq even conferred the local government of Dhār on an immigrant from the Maldives because of the excellent melons he had been able to produce at Dhār.[42] Ibn Baṭṭūṭa also reports grapes and pomegranates being gathered twice a year in the territory of Daulatābād.[43]

None of our thirteenth- or fourteenth-century sources give any indication that sericulture, or the production of mulberry silk, had as yet been attempted anywhere in India. But the Chinese navigator Ma Huan, basing himself on the report of a Chinese mission to Bengal (Pan-ko-la) in 1422, tells us clearly enough: 'Mulberry trees, wild mulberry trees, silk-worms and cocoons—all these they have.'[44] In the next two centuries (sixteenth and seventeenth) Bengal was to become one of the great mulberry-silk producing regions of the world. One interesting feature about Bengal sericulture was that the worm was multivoltine, enabling six crops to be gathered in the year: it was thus similar to the tropical silkworm of south China.[45] It is quite possible, then, that the silkworm was introduced as a result of the trade with China:

in the 1340s Ibn Baṭṭūṭa had taken a Chinese ship (*jank*) from Sonārgāon for Sumatra, thereby indicating that Chinese ships regularly called on Bengal ports in those times.[46]

Before we leave the subject of agricultural production, it is necessary to remind ourselves that there was no evenness in production from year to year, large variations in the bounty of the monsoons, in particular, playing their part. Famines occurred from time to time with varying intensity. Shaikh Niẓāmu'ddīn recalled in 1311 that when Qutbu'ddīn Ḥasan was killed (in 1255), Delhi was in the grip of a famine.[47] A severe famine occurred around that time (1256–58) in Gujarat as well.[48]

A famine broke out during the reign of Jalālu'ddīn Khaljī (1290–96) when rains failed for two years. Grain began to be sold at Delhi at a *jītal* a *ser*. The people of Sawālak (northern Rajasthan and Haryana) were particularly affected: people from that part of the country came to Delhi in groups and, desperate and hungry, drowned themselves in the Yamuna. The state granaries were emptied, but no other measure of state relief was apparently attempted.[49]

It is especially said of the reign of Quṭbu'ddīn Mubārak Khaljī (1316–20) that no famine occurred during it.[50] Famine followed, however, in Muḥammad Tughluq's reign, partly as a sequel to his attempt to enhance taxation in the Delhi–Doāb area and the resultant disturbances. Thereafter the continuous failure of the rains destroyed crops in successive years. The famine seems to have begun in 1333–34 and covered a large area, including Malwa, Haryana and the Doāb, but not Kara and Awadh, which apparently remained immune. The intensity of the famine was such that 'thousands upon thousands' died, and large numbers left their homes. Carrion was eaten, and rumours of cannibalism were current. The famine lasted for some seven years.[51]

Muḥammad Tughluq's relief measures appeared initially designed to collect agricultural produce enough for feeding the Delhi citizenry. He gave out loans (*sondhār*) to peasants to dig wells and deliver the harvested grain to the royal stores.[52] He arranged for free distribution of food from centres in the city, drawing upon the royal granaries and trying to bring grain from the less affected districts.[53] He also allowed the people of Delhi to migrate to towns eastward and himself established his court at a place on the Ganga, which he named Sargadwārī (Gate of Heaven). Here, reputedly 70 or 80 lakhs of *tanka*s' worth of grain and other supplies were received from the provinces of Kara and Awadh, to relieve the scarcity.[54]

As the famine receded, the Sultan undertook a project to develop agriculture that appears almost modern in its concept and scale. Some time before *c.* 1347, a special ministry (*dīwān*) was constituted under an officer designated *amīr-i kohī*. Special territorial blocks, 30 *kuroh*s (90 km) by 30 *kuroh*s, were created. A hundred *shiqqdār*s (revenue officers) were appointed, one over each such block, charged with ensuring that cultivation would be extended and cropping improved, so that 'barley may be replaced by wheat, wheat by sugarcane and sugarcane by grape and date'. The measure was to be carried out by aid of loans (*sondhār*) to peasants, for which money was laid out. The officials taking these sums made commitments over how much fresh area they would bring under cultivation, until about 70 lakh *tanka*s (2 crores, according to 'Afīf) were disbursed. But little actually reached the peasants and the bulk was misappropriated. The embezzling officials might have faced fearful punishment had Muḥammad Tughluq not died away from Delhi in 1351; his successor Fīroz Tughluq pardoned them all.[55] Not only the original concept, but also the sequel, would seem to bear the mark of modern times.

NOTES AND REFERENCES

1. Ibn Baṭṭūṭa, *Riḥla*, p. 409, tr. Gibb, III, p. 412.
2. In Akbar's time the two types of land—cropped once in the year and double-cropped, were known as *yak-faṣla* and *do-faṣla*. See Habib, *Agrarian System*, p. 27*n*. There is no question that some land must have been double-cropped earlier as well.
3. Ḥamīd Qalandar, *Khairu'l Majālis*, , p. 142. Elsewhere too, he says, the cultivator's capital (*māya*) is 'a yoke of oxen and seed' (p. 272).
4. Amir Khwurd, *Siyaru'l Auliyā*, pp. 156–57. The work was compiled during the reign of Fīroz Tughluq, and the ṣūfī spoken of was Shaikh Ḥamīdu'ddīn, who lived in the thirteenth century.
5. 'Afīf, *Tārīkh-i Fīrozshāhī,* p. 128.
6. Ibn Baṭṭūṭa, *Riḥla*, Beirut text, pp. 408–09, tr. Gibb, III, pp. 611–12.
7. S.R. Sarma discusses the approximate date and the nature of contents of the *Gaṇitasāra* in 'Ṭhakkura Pherū's Rayanaparikkha', *Aligarh Journal of Oriental Studies*, I(1) (1984), pp. 8–10.
8. 'Abdu'l Ḥamīd Ghaznavī, *Dastūru'l Albāb fī 'Ilmu'l Ḥisāb*, Rampur MS, ff. 102b, 102a (folios disarranged).
9. The weight of the *man* as worked out from Ṭhakkura Pherū's tables of weights and measures (set out in Dasharatha Sharma, *Early Chauhān Dynasties*, p. 319) and from the *tola* weight based on Pherū's own equation of *ṭanka=tola* (Deyell, *Living Without Silver*, pp. 260–61), comes to about 8.8032 kg, which would be much lighter than the pre-Akbar *man* of 23.44 kg as well as Akbar's *man* of 25.11 kg (see Habib, *Agrarian System*, pp. 420–21, for the latter two weights). For the fourteenth-century *gaz*, we have the statement in the *Sīrat-i Firozshāhī*, p. 201, that the Aśokan pillar installed in Firozshah Kotla was of a length of 22 *gaz*, of which 2 *gaz* were now covered by the masonry of the building erected for it. The corresponding modern measurements being 42 ft 7 in. and 4 ft 1 in. respectively (Zafar Hasan, *Delhi*, II, p. 79), the *gaz* would be either 0.58997 m or 0.62230 m, so that an approximate length of 0.6 m should be acceptable. A *bīgha* based on a square of 60 units of this length would be only 1,296 sq. m, far smaller than even the pre-Akbar, Sikandarī *bīgha* of 2,135 sq. m, let alone the larger *bīgha-i Ilāhī* (2,400 sq. m).
10. Abū'l Fazl, *Ā'īn-i Akbarī*, I, p. 498.
11. For the figures given by Pherū, see his *Gaṇitasāra*, 5.4–8, pp. 105–06; for the yield-rates in Abū'l Fazl, *Ā'īn-i Akbarī*, I, pp. 297–300.
12. Marco Polo, *Ser Marco Polo*, II, p. 342.
13. Ibn Baṭṭūṭa, *Riḥla*, Beirut text, p. 397, tr. Gibb, III, pp. 597–98.
14. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 568–70; 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 127–28.
15. Ibn Baṭṭūṭa, *Riḥla,* Beirut text, p. 413, tr. Gibb, III, p. 617.
16. Ibid., p. 428 , tr. Gibb, III, pp. 638–39.
17. Ibid., p. 409, tr. Gibb, III, p. 611. Pelsaert, *Jahangir's India*, pp. 60–61, in 1626 found 'kitchery', made of green pulse and rice with butter, forming the main item of food of the common people at Agra.
18. Ibn Baṭṭūṭa, *Riḥla Ibn Baṭṭuṭa*, p. 546, tr. Husain, p. 167.
19. Baranī, *Tārīkh-i Fīrozshāhī,* pp. 569–70 (read *paunḍa* for *parinda*!); 'Afīf, *Tārīkh-i Fīrozshāhī,* p. 128. On the inferior black variety, see also *Masalik al-Absar,* ed. K.A. Fariq, Delhi, 1961, pp. 18-19, transl. O. Spies *et al.,* Aligarh, p. 21: it was good for chewing, we are told, not for crushing.
20. Marco Polo, *Ser Marco Polo*, II, p. 115 (Bengal), 393 (Gujarat).
21. Habib and Jha, eds, *Mauryan India*, p. 116.
22. See I.P. Petrushevsky, 'The Socio-economic Condition of Iran under the Il-Khāns', in *Cambridge History of Iran*, V, p. 502, and A.K.S. Lambton, 'The *Āthār wa Aḥyā*' of Rashid al-Dīn Faḍl Allah', in Amitai-Preiss and Morgan, eds, *Mongol Empire*, pp. 151–52. Indigo (*nīl*) is listed among Indian exports to Iran in Shihābu'ddīn 'Abdullāh, *Tārīkh-i Waṣṣāf*, Bombay, AH 1269/ AD 1858–59, III, p. 300.
23. These references are to be found in translations of the travellers' narratives (separately paginated) in Major, ed., *India in the Fifteenth Century*: Nikitin, pp. 8, 21 and Stefano, p. 9.

24. Watt, ed., *Dictionary*, VI (1), pp. 23–36.
25. *Bahār-i ʻAjam*, s.v. *afyūn* (pub. Sirājī Muḥammad Khan, Delhi AH 1282/1865–66, 1:110).
26. Baranī, *Tārīkh-i Fīrozshāhī*, p. 569, here speaking of the fruits and crops that would be obtained once Fīroz Tughluq's canals made water available in the Haryana tracts.
27. Federico D. Romanis, 'Rome and the *Notia* of India', in Romanis and Tchernia, eds, *Crossings*, pp. 98–102.
28. Marco Polo, *Ser Marco Polo*, II, pp. 375, 380.
29. Ibn, Baṭṭūṭa, *Riḥla*, Beirut text, p. 559, tr. Husain, pp. 183–84.
30. Major, *India in the Fifteenth Century*; Nikitin, pp. 20–21; Stefano, pp. 4–5.
31. Major, *India in the Fifteenth Century*, Nicoló Conti, pp. 6, 17–18.
32. Ibid., pp. 7–8, 17–18.
33. Cf. Basham, *The Wonder That Was India*, pp. 194, 206.
34. Minhaj Siraj, *Ṭabaqāt-i Nāsirī*, II, p. 26.
35. Baranī, *Tārīkh-i Fīrozshāhī*, p. 117. Serving a betel-leaf was also meant to indicate, at a meal, that the meal was over! (*Fawā'idu'l Fuwād*, pp. 347–48).
36. Baṭṭūṭa, *Riḥla*, Beirut text, p. 236, tr. Gibb, II, p. 387. A sign of their fall from prosperity under Alā'uddīn Khaljī was that the village headmen could no longer afford to chew betel-leaf (Baranī, *Tārīkh-i Fīrozshāhī*, p. 288).
37. Baṭṭūṭa, *Riḥla*, Beirut text, p. 546, tr. Husain, p. 167.
38. Ibid., pp. 406, tr. Gibb, III, p. 609.
39. Ibid., pp. 263–65, tr. Gibb, II, pp. 388–90. See Marco Polo, *Ser Marco Polo*, I, p. 108, for ship ropes made of coconut fibre; also Ma Huan, *Ying-yai Sheng-lan*, p. 143 (written in AD 1433), for the many uses of the tree and its fruit.
40. Baranī, *Tārīkh-i Fīrozshāhī*, p. 498. See also Baṭṭūṭa, *Riḥla*, p. 408, tr. Gibb, III, p. 610, where he says grapes were rarely grown in India except for the area around Delhi—with a blank left in lieu of the name of some other territory.
41. Baṭṭūṭa, *Riḥla*, p. 408, tr. Gibb, III, p. 610–11; Baranī, pp. 569–70.
42. Baṭṭūṭa, *Riḥla*, p. 546, tr. Husain, p. 167.
43. Baṭṭūṭa, *Riḥla*, p. 548, tr. Husain, p. 170.
44. Ma Huan, *Ying-yai Sheng-lan*, p. 163. The year when a party from Zeng He's fleet, of which Ma Huan was the 'secretary', visited Bengal has been established by Haraprasad Ray, *Trade and Diplomacy in India-China Relations*, pp. 40, 66–70.
45. See Habib, *Agrarian System*, p. 57*n*.
46. Baṭṭūṭa, *Riḥla*, p. 615, tr. Husain, p. 241.
47. Sijzī, *Fawa'idu'l Fuwād*, p. 112. For the date of Quṭbu'ddīn Ḥasan's imprisonment (31 May 1255; he was killed soon afterwards), see Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, I, p. 489.
48. Sarvānanda's *Jagaḍucharita* contains a panegyric of a Jaina layman who constructed wells and undertook other works of charity during this famine (Keith, *A History of Sanskrit Literature*, p. 173).
49. 'Iṣāmī, *Futūḥu's Salāṭīn*, pp. 217–21; Baranī, *Tārīkh-i Fīrozshāhī*, p. 212.
50. Baranī, *Tārīkh-i Fīrozshāhī*, p. 387.
51. For descriptions of the famine, see Baranī, *Tārīkh-i Fīrozshāhī*, pp. 473, 480–86; Baṭṭūṭa, *Riḥla*, pp. 489, 550, tr. Gibb, III, pp. 720–21, 734); and Yaḥyā, *Tārīkh-i Mubārakshāhī*, pp. 106–07, 113.
52. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 482–83. Ibn Baṭṭūṭa says the recipients of the loans to dig wells were required to deliver the produce to the *makhzan*, meaning either the Treasury or the State Granary. The loans probably had some harsh or usurious elements in them, leading a theologian to protest against the measure: he was executed for his pains (p. 474, tr. Gibb, III, p. 700).
53. For this see Ibn Baṭṭūṭa's account of his own experiences: Baṭṭūṭa, *Riḥla*, pp. 470, 501, 524, 533, tr. Gibb, III. pp. 695, 734, 761; tr. Husain, pp. 164–65, for distribution of food in Delhi; and Baṭṭūṭa, *Riḥla*, pp. 526-27, tr. Gibb, III, pp. 763–64), for the transportation of 2,641 quintals of grain from Amroha to Delhi, which Ibn Baṭṭūṭa was directed to arrange.
54. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 485–86.
55. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 498–99; 'Afif, *Tārīkh-i Fīrozshāhī*, pp. 92–94.

CHAPTER 6

Agricultural Manufactures

Irfan Habib

Agricultural manufactures is a rather ambiguous term, and is used here broadly to cover the various kinds of off-the-field processing of agricultural produce, mainly carried out within the village. The time when all such devices, observable before the onset of modern conditions, could be dismissed as having remained changeless since time immemorial is hopefully long past. As one traces the history of each technical principle and its diffusion, new questions are inevitably posed about the varying pace and complex forms of technological change.

Let us, for instance, take the draw-bar. Archaeological evidence from Taxila suggests that complete rotary motion was not attained in hand-mills until the fifth century AD.[1] It is, therefore, unlikely that the draw-bar, and the complete circular movement of oxen required by it, could have been seen in India before that century. The lower dates for the first appearance of the device in India have been provided by Lallanji Gopal, who detected references to cattle going round in order to thresh out grain in the *Abhidhānaratnamāla* (*c*. 950), the *Vaijayanti* (*c.* 1050) and the *Rāmacharita* of Sandhyākaranandin (*c.* 1100).[2] The arrival of the draw-bar was of momentous consequence for agricultural manufactures because of its use for a wide range of purposes (besides the water-lift, already discussed in Chapter 4).

It is possible that the mode of threshing by the circular motion of cattle itself took time to spread. In the 1670s John Fryer noted that in the Deccan, while the Muslims ('Moormen') used this mode of threshing, the Hindus ('Gentues') threshed manually with sticks.[3] The sectarian affiliation of either technique is questionable, but the simultaneous existence of both practices would suggest that the use of cattle for threshing was in the process of diffusion even as late as the seventeenth century.

It is difficult to say exactly when the draw-bar began to be employed for pressing out oil. An inscription of AD 804 at Baijnath, Himachal Pradesh, records the donation of an oil mill (*tailotpīḍayantra*, 'instrument for crushing out oil').[4] It could be a simple mortar and pestle, but that it was felt to deserve a lasting record hints at a more expensive apparatus such as a rotary oil-mill with a draught animal to work it. In other words, the oil man's mill of 'traditional' India might have arrived by the ninth century, although the evidence is admittedly indirect.

In sugar-milling, the earliest firm evidence for the use of the draw-bar comes from a painting in a Jain manuscript *Mahāpurāṇa*, transcribed and illustrated at Delhi in 1540. It shows a pair of oxen rotating a mortar-and-pestle mill (*kolhu*) with a cane-field depicted nearby.[5] There is, however, a strong probability that this mill was already in use during the preceding three or four centuries. The same could also have been the case with a rival device, the rolling mill, a technologically still more interesting 'machine'. The latter is first described ('two great wooden Roulers, turn'd about by oxen') by Careri, who observed them on the western coast in 1695.[6] In the nineteenth century, a geographical distribution between the two devices could be observed, the mortar-and-pestle prevailing in the north, and the rollers in the south.[7]

As we will see later, the use of rollers in the Indian cotton gin is as old as the sixth century A.D. For the employment of rollers in sugar milling, however, there was not only the need for the draw-bar, which is only attested three or four centuries later, but also for worm-gearing by which, by rotating one roller, one could rotate the other in the opposite direction. There is evidence in India from the seventeenth century for the use of worm-gears, because without them the upright rollers seen by Careri could not have done their work. The likelihood is that these gears first appeared (or were invented) in peninsular India, some time previous to Mughal times, quite possibly in the thirteenth or fourteenth centuries, probably simultaneously with their use in the cotton gin.[8]

If both the ox-driven sugar mills (mortar-and-pestle and wooden rollers) came into extended use in the thirteenth and fourteenth centuries, these are likely to have greatly increased sugar production. Three principal kinds of sugar are reported in our sources, namely ordinary red sugar, white sugar, and the refined variety (*nabāt, miṣrī*), their prices being quoted in an ascending order. Baranī, in fact, lists all three varieties among high-value commodities (*qumāsh*).[9]

We have just remarked on how the sugar rolling mill involved the principle of rollers as well as worm gearing. The double rollers, rotating in contrary directions, were a specifically Indian invention, seen as early as the sixth century in the Ajanta frescoes. Here, in a scene in Cave 1, a woman moves the twin parallel rollers in a frame by moving her palm down over them: this movement naturally causes them to run in directions opposite to each other, and so helps separate the seed from the cotton fibre, as small bits of the fibre are inserted between the rollers.[10] Though technologically important as a possible ancestor to all rolling mills, the device could only supplement, not replace, the single roller moved on a board by which cotton and seed could also be separated (this being shown in the same Ajanta scene). What was needed to make the roller-gin more effective was the worm-gearing and the crank-handle, whereby one roller alone would need to be rotated, while the gearing took care of the other one. One possible clue which may narrow the date of its introduction is the fact that when the cotton gin reached China from India in the thirteenth century, it still lacked worm-gearing: this is not shown in the depiction of the gin in 1313 by Wang Zhen, nor mentioned in his account of the device.[11] This could imply that worm-gearing came to be employed in the Indian cotton gin only after it had diffused from here to China. If so, the incorporation of the gearing could be placed within the span of the thirteenth to the seventeenth century when the geared sugar mills are first reported.

Of the crank-handle, the earliest depictions belong to the seventeenth century.[12] The right-angled crank had appeared in China, its country of origin, no earlier than the thirteenth

century, and in Europe well over a century later.[13] Its incorporation in the Indian cotton gin should thus be dated to late Sultanate or early Mughal times.

Once seeds were expelled, the cotton fibre had to be loosened ('scutched') so as to be ready to be spun into yarn. The scutch-bow was, in all probability, an ancient Indian invention, possibly mentioned in the *Jātaka*s and more explicitly in Sanskrit dictionaries of the eleventh and twelfth centuries.[14] The earliest Persian reference traced does not go beyond the eleventh century and the Arabic one to the fourteenth.[15] Its use under the Sultanate is well-attested—'the cotton-carder's bow' is mentioned in the dictionary of Qawwās, compiled in India before 1342–43, as well as in the *Miftāḥu'l Fuẓalā*, written in Mandu in 1468–69, which also provides an illustration of it.[16]

Medieval conditions of transport probably made it uneconomical for the expanded, carded cotton to be carried to the town; it may accordingly be presumed that it was largely spun in the villages and then only carried to the towns in the form of yarn to be woven into cloth for the urban market. If so, we need to also consider what was, perhaps, the most consequential of all devices now introduced, namely the spinning wheel.

Far from being a primitive instrument, as usually represented, the spinning wheel can well be adjudged to be an early machine in that it incorporates within itself the crucial mechanical principles of belt-transmission of power and the fly-wheel, or the evening out of the speed of rotation.[17] It also has another characteristic of a machine—a radical increase in output. In relation to the hand-spindle or distaff, in use before it, it is estimated to increase production by six times, even in its simplest form.[18] Besides this, it freed the spinner from the intolerable pressures on her thumb and fingers in hand-rotating the spindle.

Contrary to earlier scholarly beliefs, India has been a very late recipient of the instrument. Recent evidence from paintings and engravings takes the simple single spinning wheel in China to the beginning of the Christian era.[19] From a later age (AD 1270), Needham reproduces a Chinese painting that gives a representation of the spinning wheel that is still without a crank-handle.[20] It was in this form that it travelled westward from China. References to the spinning wheel occur in the verses of Persian poets of the twelfth century;[21] and the device was thus now knocking at India's door. But in 1301–02, Amīr Khusrau at Delhi is still found associating women with just the needle and the spindle (*dūk*), these being a woman's 'spear and arrow': clearly, he visualizes the spinner as working with her hand-spindle and not with a cumbersome apparatus like the spinning wheel.[22] However, about 50 years later the poet 'Iṣāmī (1350), writing in the Deccan, tells us that Sultan Raẓiyya should have occupied herself with the spinning wheel rather than the throne, for

> That woman is better, who engages herself with the [spinning-] wheel [*charkha*]
> all the time.
> For a place of honour will make her lose her senses.
> Let cotton be her companion, sorrow her cup; and
> Let the noise of the spindle [*dūk*] be her music.[23]

We can thus practically narrow the limits of the diffusion of the spinning wheel within India to the first half of the fourteenth century. In 1468-69 the *Miftāḥu'l Fuẓalā*, written in Malwa, mentions the spinning wheel and illustrates it.[24] In 1516 Barbosa mentions yarn for

fine varieties of cloth in Bengal being 'spun on wheels', so that the instrument had by now diffused throughout India.[25]

The diffusion of the spinning wheel must have greatly expanded cotton textile production by lowering the costs of yarn and helping to increase the demand for cotton. If this is the period when the cotton-gin too obtained its worm gear, cotton production must indeed have received further impetus. The subsequent stages in cotton processing would, however, be considered when we take up the subject of industrial crafts (see Chapter 10).

Indigo, mainly employed in the dyeing and bleaching of textiles, also probably saw much improvement in the techniques of its manufacture. Marco Polo, collecting his information at the Kerala ports in the early 1290s, describes the process of the extraction of indigo as prevalent at that time in South India. He tells us that the plant, after being cut, was placed in 'great vessels', which were then filled with water to soak in the dye. Once this was attained, the water carrying the dye pigments was put under the sun to evaporate, and the dry indigo was then collected.[26] This seems to have been the only way possible before the use of lime and gypsum mortar enabled water-tight masonry vats to be built. These had to be laid out in pairs, one higher than the other, with arrangements for water to flow from the higher one to the lower and then out of the latter. This is what we learn from the archaeological remains and textual evidence from the seventeenth century.[27] There is no reason why the new technique should not have been employed from the thirteenth century onwards, as lime mortar definitely came into wide use in construction in the Delhi Sultanate. It need not be stressed that the new method must have greatly increased the amount of indigo extracted and also improved its quality.

The period of the Sultanate saw the introduction of new forms of distillation, to create a whole new category of intoxicating liquor. Distillation itself was not a new practice. Baked-clay retorts and receivers have been found at Taxila (north-west Punjab) and Charsadda (NWFP) in Pakistan, going back to the early centuries of the Christian era.[28] But these 'Gandhara stills' could only produce very weak liquor, since there was no efficient means of collecting the vapours at low heat. What became available in West Asia and the Mediterranean by the thirteenth century was a still that could produce alcohol of a high degree of purity. In this the water container was placed at the top of the retort ('Moor's head'), an annular rim collected the drops as the vapours condensed on the internal surface of the cooling roof, and a tube carried the liquid alcohol, so collected, down to the receiver. Evidence from the European Mediterranean area suggests that this technique of distillation reached Italy from the Arabs, but that there it was further improved by the thirteenth century, to attain the form above described. It could now produce practically pure alcohol by double distillation.[29] Needham expressed some reserve about the attribution of a purely European origin to the device, because the words 'Moor's head' for the cooling container suggest an Arab origin for this crucial component.[30] Moreover, researchers often forget that the prohibition of wine in Muslim law naturally inhibited any scholarly descriptions of the manufacture of alcohol among Muslims, so that silence on the matter in Arabic texts need not imply ignorance.

It is here that the evidence of the Indian historian Baranī turns out to be so important. When he describes (in 1357) the effect of the order of Sultan 'Alā'uddīn Khaljī (1296-1316), prohibiting the consumption and sale of wine, he himself takes the wine to be not the fermented variety, but distilled spirits. He tells us that the ones who 'set up *bhaṭṭī*s (stills) within their

houses, and put in them wine made of granulated sugar (*qand*) and distilled it (*chakānīdand*, literally, 'made it trickle down drop by drop'), and consumed it and secretly sold it at high prices' defied the order. Subsequently, the Sultan relented to the extent that 'a person may privately distil (*chakānad*) from the *bhaṭṭi* and, closing his doors, consume the wine'.[31] The description leaves us in no doubt that it was the Italo-Arab still and not the Gandhara one that was in use, for in the latter the lower side of the side-tube at its entry into the receiver is externally sealed to stop the vapours from escaping: there are thus no visible drops falling into the container. With the Moor's Head creating the condenser within the main still, the tube carried the collected liquid which would fall drop by drop from the open lower month of the tube into the receiving vessel.[32] The word *chakānīdan* is thus crucial in indicating the type of still used. The same word is used specifically for distillation in the *Miftāhu'l Fuẓalā*, 1468–69, as well.[33]

It would seem, therefore, that the effective Italo-Arab liquor-producing still had made its way to India by the fourteenth century. Indeed, it was probably in wide use already by the reign of Mu'izzuddīn Kaiqubād (1286–89), when vintners (*khammārs*) at Kol (mod. Aligarh) and Meerut used to take 'distilled (*chakānīda*) spirituous (*tāhū*), sweet-smelling liquor ('*araq*), sickness-free, two or three years old', to Delhi in flagons.[34] It is likely, therefore, that the new still created an extensive and prosperous industry; and one is therefore not surprised that among Muḥammad Tughluq's high officers was one 'Azīz Khammār, belonging to a family of vintners.[35]

Another significant product of the introduction of West Asian distillation devices was the extended cultivation of the rose (*gul*), and the manufacture of rose-water (*gulāb*). P.K. Gode points out that there is no traceable reference either to the rose or to rose-water in Sanskrit texts until a possible one in a mid-sixteenth century work.[36] On the other hand, Baranī, in 1357, was anticipating how in the areas served by Fīroz Tughluq's canals, different kinds of roses, *la'l*, *sad-barg* and *karra* (?), would be grown in the newly planted gardens.[37] How extensively the production of rose-water (the perfume distilled out of roses) had spread throughout the country by this time is indicated by the low prices that Ibn Baṭṭūṭa in recorded of rose-water (*julāb*, Arabic transcription of *gulāb*) in the mid-1340s in Bengal: it fetched no more than a half of the price of ghee of the same weight.[38]

NOTES AND REFERENCES

1. See Irfan Habib, *Indian Journal of History of Science* (*IJHS*), 35(3), (2000), pp. 248–51.
2. Lallanji Gopal, 'Technique of Agriculture in Early Medieval India (*c*.700-1200 AD)', *University of Allahabad Studies* (Ancient Indian History Section), Allahabad, 1963–64. For the dates of the first two texts, see Keith, *Sanskrit Literature*, p. 414.
3. Fryer, *New Account*, II, p. 63.
4. *Epigraphia Indica*, I, pp. 97–118, esp. pp. 115 (text), 118 (transl.) A similar inference about its presence, early in the sixteenth century in South India, must be drawn from the statement of Domingo that the oil which the country 'produces comes from seeds sown and afterwards reaped, and they obtain it by means of machines which they make' (Sewell, *Forgotten Empire*, pp. 230–31).
5. Khandelavala and Chandra, *New Documents*, pp. 69–70, 140, and Fig. 155.
6. Giovanni Careri, 'Giro del Mondo', p. 169.
7. Cf. Irfan Habib, 'Technology and Barriers to Social (*rect*. Technological) Change in Mughal India', *Indian Historical Review* (*IHR*), V (1–2), (1978–79), pp. 155–58.

8. On India's possible role in the invention of worm gearing, see Joseph Needham, *Science and Civilisation in China*, IV(2), *Mechanical Engineering*, pp. 122–24. Christian Daniels in his section on sugarcane technology in VI (3), *Agro-Industries*, in the same series, discusses the question at length (pp. 303–07, 315–38). On p. 325*n* he recognizes that 'the origin of the parallel worm gears remains obscure, but seems to be centred on India'. There is, however, no proof for his contention (p. 304) that the earliest sugarcane-rolling mills were only manually powered and developed in India about AD 1400.
9. See Baranī, *Tārīkh-i Fīrozshāhī*, p. 310, where prices under 'Alāuddīn Khalji were, per *ser*: one-thrid *jītal* for red sugar; one and a half *jītal* for white sugar (*shakkar-i tari*), and two and half *jītal* for *nabāt-i miṣrī* (Bib. Ind. text should be checked here, as elsewhere, with the Rashid edn, which is more accurate throughout). The prices in Muḥammad Tughluq's time, as reported to Al-'Umarī', author of the *Masālikat Abṣār*, p. 62, gives the same price of 8 *jital*s for 5 *ser*s of (white) sugar and 4 *ser*s of the *nabāt*. Not only is the difference between the two varieties small, the relative price of *nabāt* would seem to have declined from what it was under 'Alāu'ddīn Khaljī. Pherū (*Gaṇitasāra*, 2.5.2, pp. 106, 194–95) tells us that the pressed-out sugarcane juice could yield jaggery (*gul*=mod. guṛ) that was one-fifth of its weight. Brown sugar (*sakkara*) would be one-sixth of the original weight of the juice, while sugar-candy (*khaṁḍa*=Pers. *qand*) was one-sixteenth. Pherū held *nivāta* (Pers. *nabāt*) to be still superior, reduced out of *khaṁda* to two-thirds of its weight. It is possible that better milling devices improved the quality of Indian sugar. Rashīdu'ddīn's tract on agriculture (*c.*1300) says that Iran imported 'raw sugar' from India (A.K.S. Lambton in Amitai-Preiss and Morgan, *Mongol Empire*, p. 151).
10. This description corrects my earlier interpretation of this early cotton gin as a (worm-)geared device; see *IJHS,* 35(3), (2000), pp. 259–60. The same frame was erroneously interpreted as a scrutching bow by D. Schlingloff in *Journal of the Economic and Social History of the Orient* (*JESHO*), 17.1, (1974), pp. 89–90; but see Ishrat Alam, 'Textile Tools as Depicted in Ajanta and Mughal Paintings' in Ray and Bagchi, *Technology in Ancient and Medieval India*, pp. 130–31.
11. Needham, *Science and Civilisation in China*, IV(2), p. 123, and J. Daniels and C. Daniels, 'The Origin of the Sugarcane Roller Mill' in *Technology and Culture*, 29(3), (1988), p. 507.
12. Cf. Irfan Habib in, *IJHS*, 35 (3), (2000), pp. 261–62.
13. Needham, *Science and Civilisation in China*, IV(2), p. 116.
14. Schlingloff, in: *JESHO*, XVII (1), (1974), p. 80, for the reference to *Jātakas*, ibid., p. 86*n*., and Moti Chandra, in, *Journal of Indian Textile History*, V, (1960), p. 4, for references to Sanskrit dictionaries.
15. Habib, *Medieval Technology*, pp. 20–21.
16. Fakhruddīn Mubārakshāh Qawwās, *Farhang-i Qawwās*, ed. Nazir Ahmad, Tehran, 1353 Solar, pp. 181, 182; and Maḥamūd Shādiābādī, *Miftāḥu'l Fuẓalā, Br*. Lib. MS Or. 3299, ff.126b, 1909, 259b, with illustration on folio 126b.
17. Cf. White, *American Historical Review*, LXV (3), (1960), p. 517.
18. Forbes, *Studies in Ancient Technology*, IV, p. 156.
19. Gao Hanyu and Shi Bokui, 'The Spinning Wheel and the Loom', in Mao Yisheng, *Ancient China*, pp. 505–06. Needham, while upholding China's case for primacy, held that the texts took only the quilling wheel to that earlier period, though this is an accepted ancestor of the spinning wheel (Needham, *Science and Civilisation*, IV (2), pp. 107, 266–67).
20. Ibid., p. 104 and Fig. 405 (Plate CLI).
21. Verses of Anwarī (d. 1152–53) and Niẓāmī (d. 1199–1200), quoted in Dih-khudā, *Lughatnāma*, ed. Muhammad Mu'īn, Tehran, 1338 (Solar), Fasc. 50: ch 2, pp. 162–63. In these verses, the person working it is invariably held to be an old woman.
22. Amīr Khusrau, *Hasht Bihisht*, p. 29.
23. 'Iṣāmi, *Futūḥu's Salaṭīn*, p. 134. The reference to the noise (*ghunna*) of the spindle makes it further clear that the spindle fitted to the spinning wheel is involved, for that alone makes much noise when rotated.
24. Br. Lib. MS Or. 3299: '*Charkh* (wheel): … by which women spin yarn' (f. 94b). A woman working the spinning wheel is depicted on f. 151a.

25. Duarte Barbosa, *Book of Duarte Barbosa*, II, p. 146. Curiously, he says the wheel-spinning was done by men, not women.
26. Marco Polo, *Ser Marco Polo*, II, p. 375.
27. See Habib, *Agrarian System*, p. 66 and *n*.
28. See F.R. Allchin, 'Evidence of Early Distillation at Shaikhan Dheri [Charsadda]', in Taddei, ed., *South Asian Archaeology*, *1977*, II, pp. 755–97, and Needham, *Science and Civilisation*, V(4), pp. 85–86, 97, 104–07.
29. Cf. Crombie, *Medieval and Early Modern Science*, I, pp. 134–37; and Forbes, *Art of Distillation*, pp. 57–58, 83–84, 87–90, 95.
30. Needham, *Science and Civilisation*, V(4), pp. 129–31.
31. Baranī, *Tārīk̲h-i Fīrozshāhī*, pp. 285–86.
32. Abū'l Faẓl in *Ā'īn-i Akbarī*, I, p. 77, describes three kinds of liquor stills, the third of which is clearly the Moor's head type with all its main components duly specified. But there is no direct earlier description of it in India or even apparently in the Islamic countries.
33. The dictionary (f. 123a) here gives the meaning of *durdī*, the dregs of wine that remain in the main vessel after distillation.
34. Baranī, *Tārīk̲h-i Fīrozshāhī*, p. 157 (*tāhū* added in the Rashid edn).
35. Ibid., p. 505.
36. Gode, *Studies in Cultural History*, I, pp. 15–37.
37. Baranī, *Tārīk̲h-i Fīrozshāhī* p. 569.
38. Ibn Baṭṭūṭa *Riḥla*, Beirut text, p. 610, tr. Husain, p. 235.

CHAPTER 7

The Pastoral Sector

Irfan Habib

The pastoral sector in most zones of cultivation appears only as an adjunct (although, in the pre-modern age, a crucial adjunct) of agriculture.[1] But once settled economy developed, it became possible for pastoralism to be adopted as an independent means of subsistence in areas where agriculture itself was not possible on any extensive scale. Let us, for instance, consider 'Afīf's account of what was then a waterless tract in Haryana. Here, at the site of the future Hisār Fīroza (Hissar), there existed two villages, Larās Buzurg and Larās Khwurd. The former had 50, and the latter 40 *khaṛak*s, there being, in that area, no village without *khaṛak*s.[2] The word *khaṛak* in Hindi means a cattle-pen, and according to an account written in the same locality in 1825, it refers specifically to an area fenced in with wood and bush in order to keep cattle within it at night.[3] The villagers, one assumes, put their cattle out pasturing in the day, and brought them back into their settlements at nightfall. They must mainly have obtained their income by selling dairy products and the animals they bred. This was possible only because there was a market for dairy products (milk, yogurt, ghee, meat) in the towns and agricultural tracts.

'Abdu'l Ḥamīd Ghaznavī, writing at Delhi in 1359, has long notes on the yield of female buffaloes and cows. The best buffaloes were bred in north-eastern Rajasthan (Sawālak), Dipalpur and Lahore, he says; the middling, in Haryāna and Bayāna; the inferior sorts, in regions further to the south. In terms of ghee (*raughan*), he thought buffalo milk yielded a quantity equal on average to 7.5 per cent of its weight, and cow's milk, 6.25 per cent. On the basis of his detailed estimates of the annual yield of the milk of buffaloes and cows, he calculated the annual yield of ghee as follows (in terms of *man*s), in case the entire milk produced was turned into ghee:[4]

TABLE 7.1

	Buffalo	Cow
Superior breed	12.375 (=109 kg)	7.225 (=64 kg)
Middling breed	9.000 (=79 kg)	5.625 (=50 kg)
Inferior breed	6.750 (=59 kg)	3.750 (=33 kg)

These pastoral communities sent dairy products, especially ghee, to the town markets, while they must also have supplied cows and draught cattle to villages of the agricultural zone. Baranī, while quoting prices fixed under ʻAlāʼuddīn Khaljī, seems to greatly undervalue ghee, its price being put at only 3.56 times that of wheat and 6.67 times of barley.[5] ʻAfīf, while quoting prices under Fīroz Tughluq, sets the price of ghee at 12.5 times that of wheat and 25 times of barley.[6] The price for ghee given in the *Āʾīn-i Akbarī* (1595) is 8.75 and 13.13 times the prices of wheat and barley.[7] It is difficult to deduce from these figures any tendency in the relative value of ghee, whether towards increase or decrease, in the long term. It is more interesting to record that Baranī sets the price of a milch-buffalo at 10 to 12 *tanka*s under ʻAlāuʼddīn Khaljī's schedule of prices: this is high value when compared with only three *tanka*s fixed for a draught bullock and 3–4 *tanka*s for a milch-cow.[8]

However the prices moved, some of the cattle herders could still become prosperous, while others doubtless remained impecunious and impoverished. In the environs of Badāūn, there was a yogurt-seller who, when converted to Islam by a ṣūfī saint, was able to bring 100,000 *jītal*s for that saint to distribute; the story about him was narrated by Niẓāmuʼddīn in 1315.[9] In 1354 Shaikh Naṣīruʼddīn recalled the story of a ghee-seller of a village near Ajodhan (Pakpattan, Punjab), whose wife had been taken away captive in an official raid. He pined for his wife, even though he claimed to have resources enough to buy 50 slave girls![10] One must, of course, discount the element of exaggeration in such narratives.

The ox was the crucial draught animal in agricultural operations, whether yoked for pulling the plough, or lifting water for irrigation or threshing grain or working oil and sugar mills. As a pack animal, it was also important for transport, especially for grain transport, each ox carrying 10 *man*s or about 88 kg.[11] Oxen also drew carts (*gardūn*) on which passengers could ride.[12]

There was, finally, the meat market, which probably expanded as the number of Muslims increased. Baranī furnishes prices for animals sold for meat under ʻAlāuddīn Khaljī at Delhi, as follows:[13]

Cow	1 to 2 *tanka*s
Buffalo	5 to 6 *tanka*s
Fat sheep	10 to 14 *jītal*s (1 *tanka* = 48 *jītal*s)

The *Masāliku'l Abṣār*, reporting meat prices under Muḥammad Tughluq, says a cow sold for two *tanka*s or sometimes less, that a buffalo cost the same as a cow, and a fat sheep cost one *tanka*.[14] Goat prices are cited by neither Baranī nor the *Masāliku'l Abṣār*. The latter text says that beef and mutton were equal in price. Sheep (and presumably goats) were kept for their milk as well.[15]

Sheep were naturally important, most of all for the wool they yielded, but unluckily we lack any specific information on the communities and territories rearing sheep for the purpose during our period.

A draught animal more recently introduced into India was the one-humped camel or dromedary. The first indication of the dromedary is found in the account of Sind by the Chinese pilgrim Xuan Zhuang (Hsuan Tsang) (602–64).[16] It is probable that the Arab conquest of Sind (712–14) led to the introduction of fresh strains of dromedaries, for these were the Arabs' principal transport animals. The camel's intrusion into the country is shown by the sculptured procession of dromedaries at the Lakshmana temple, Khajuraho, in the tenth

century,[17] and then in the Mandor freeze of the twelfth century where the dromedaries are attached to high-clearance carts.[18] During the period of the Sultanate camels carried goods as well as persons over long distances.[19] They were also used in agriculture, for, at least early in the sixteenth century, as we have seen earlier, camels were used to work Persian wheels in Sind.[20] We have no evidence that camels were being imported into India, and we should presume that the dromedaries were largely bred in Sind and western and northern Rajasthan, the main areas of camel-breeding in Mughal times.[21]

Ibn Baṭṭūṭa notes, doubtless with North Africa in mind, that donkeys were not put to use as riding beasts or even pack animals in India.[22] Horses too were not used as draught animals, for there is no hint of their use in ploughing or working mills or drawing carriages. But they were widely used for conveyance as mounts, although, from the rates quoted, a ride on a horse was more expensive than getting a seat on a cart or riding on a camel.[23] Horses employed for these purposes were probably those called *ṭaṭṭū* and were local or 'country-bred'.[24]

Better horses for cavalry use were largely imported.[25] Still, in certain areas within India good horses could be bred. According to Baranī, in words put by him into Balban's mouth, good quality horses were bred in large numbers in northern Rajasthan and Haryana and central Punjab.[26] Further to the north-west, there were high-value horses to be found in the Salt range (Koh-i Jūd), though this area was seldom under the firm control of the Sultans.[27] It would seem that steppe-like tracts with semi-nomadic communities were better suited to breeding war-horses than either settled areas with lush fields or densely forested zones. In Sind, on the banks of Lake Manchhar near Sīwistān (Sehwan) grew grasses that provided a famed pasturage for horses.[28] Local flora had thus probably much to do in determining suitable breeding grounds for horses. In general, however, India was not a country where good horses could be bred, or the good breeds, once imported, protected from decay.[29]

NOTES AND REFERENCES

1. 'The capital (*māya*) of a peasant consists of a yoke of cattle and seed' (Ḥamīd Qalandar, *Khairu'l Majālis*, pp. 272, 140). Without cattle, agricultural operations could not be sustained.
2. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 124–25.
3. Skinner, *Tashrīhu'l Aqwām*, f. 149b.
4. Ghaznavī, *Dastūru'l Albāb fi 'Ilmu'l Ḥisāb,* ff. 100b, 102a, 103a (folios disarranged). For the modern equivalent of the *man* of that period, applied in the table below, see Chapter 5, n. 9. It is interesting that given Ghaznavī's own formulas for milk-ghee ratios for buffaloes and cows, the ghee produced by a superior breed of buffalo would imply a daily average output of 3.98 kg over the whole year; and for a cow of the superior breed it would be 2.79 kg.
5. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 305, 310. In Baranī's first version (Bodleian: Elliot 353, f. 144a), the price of ghee is set at half of the one given in the final version.
6. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 294.
7. *Ā'īn-i Akbarī*, *Tārīkh-i Fīrozshāhī* , I, pp. 60, 65.
8. Baranī, *Tārīkh-i Fīrozshāhī*, p. 315.
9. Sijzī, *Fawā'idul Fuwād*, pp. 227–28. It is true that he was also suspected of belonging to a group of highway robbers!
10. Ḥamīd Qalandar, *Khairu'l Majālis*, pp. 236–37.
11. Thus Ibn Baṭṭūṭa, *Riḥla*, pp. 526–27, tr. Gibb, III, p. 764, where it is mentioned that 30,000 *man*s of grain were transported on 3,000 oxen. See also Ḥamīd Qalandar, *Khairu'l Majālis*, p. 241, for oxen

(*sutūr*) used for transporting grain. (*Sutūr* as a word meant beast of burden, and context must determine which species of beast is actually meant.) See *Masālik al-Abṣār,* ed. Fariq, p. 31 (tr. Spies *et al.,* p. 23) for the ox serving as the pack animal for the common people.

12. ‘Afīf, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 136, on seats on hire on carts in traffic between (Qutb) Delhi and Firozabad (Firozshah Kotla). See also Sijzī, *Fawā’idu’l Fuwād*, p. 372 (a sufic devotee travelling on a cart with a female singer for a co-passenger).
13. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 315.
14. Shihāb al-Dīn al-‘Umari’, *Masālik al-Absār fī Mamālik al-Amṣār*, p. 62, tr. Otto Spies et al., p. 58.
15. See the incident of the loss and recovery of a milk-giving sheep (*gosfand-i shīrī*) kept among his stables by the noble Nusratu’ddīn Tāisī, narrated in Minhāj Sirāj, *Tabaqāt-i Nāṣirī*, II, p. 12.
16. Xuan Zhuang, *Si-Yu-Ki*, II, p. 272. Cf. Watters, *Yuan Chwang’s Travels*, II, p. 252.
17. Prakash, *Khajuraho*, Fig. 50.
18. Archaeological Survey of India: *Annual Report, 1909–10,* Calcutta, pp. 97–98 and Plate XLIV, a.
19. Mīr <u>Kh</u>wurd, *Siyaru’l Auliyā*, p. 283 (she-camel carried water from Kaithal to Kanauj); *<u>Kh</u>airu’l Majālis*, p. 259 (Ayodhya to Delhi in 40 days, riding a camel). Yet, says *Masālik al-Abṣār,* ed. Tariq, p. 31 (tr. Spies *et al.,* p. 22), with probably the Delhi territory in mind, camels were few and made use of only by the great.
20. Mīr Ma‘ṣūm, *Tārīk<u>h</u>-i Sind*, p. 110.
21. See Habib, *Atlas of the Mughal Empire*, index entry: ‘Camels’, on p. 83, col. 1, for all localities and references in sources.
22. Ibn Baṭṭūṭa, *Riḥla*, p. 527, tr. Gibb, III, p. 764.
23. ‘Afīf, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 136. Riding in a palanquin was still more expensive.
24. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 313.
25. On such imports little need be said here, owing to the exhaustive treatment the topic has received from Simon Digby, *War-Horse and Elephant*, pp. 23–49.
26. ‘In the country of the Sawālak (north Rajasthan) and in the tracts of Sunām, Sāmāna, Tabarhind (Bhatinda), Thanesar, and the *talwandīs* (encampments) of Khokhars, and in the lands of Jattūs and Mandhars’ (Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 53).
27. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, pp. 59–60.
28. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 537.
29. Cf. ‘Waṣṣāf’, *Tārīk<u>h</u>-i Waṣṣāf*, III, p. 302.

CHAPTER 8

The Agrarian Classes

Irfan Habib

It is perhaps characteristic of the bias in our sources that the most impoverished and repressed sections of the population hardly ever get mentioned in our texts. In a rare allusion, the 'Chaṇḍālas', the untouchables, are put at the end of a short list of classes of villagers informed of a grant of their village in Bundelkhand in a Chandella inscription of AD 1254.[1] If Baranī had not uttered a string of abuses for a rebel tax-contractor, for whom he had, for some reason, much contempt, we would not have even specifically heard of the existence of the most 'untouchable' of all castes, the scavengers.[2] These formed the lowest ranks of the forcibly created reserve army of landless labour in the villages. Apparently a few notches above them were the Balāhars, whom Baranī mentions as the pettiest or lowliest of the cultivators.[3] In Mughal times and later, the Balāhars were also called Dhānuks and Thorīs, and were lowly village servants and field labourers.[4] Other classes, perhaps of petty peasants, who also drew Baranī's scorn, include the *mālī*s, vegetable growers and market gardeners, held to be 'the lowliest and vilest of the lowly and the vile'; and garden-tenders, who were also similarly to be counted among 'the pick of the base'.[5] Obviously, those who lived by their own labour and did not have even the wherewithal to undertake proper cultivation were assigned an exceptionally low social status.

As for peasants proper, it was expected that they possessed 'seed, cattle, goods and tools'.[6] While a *ṣūfī* might commend the occupation of a peasant,[7] the general attitude towards a peasant of the ruling class and the *elite* is reflected in the fact that the word *kāfir* ('infidel') was an accepted designation for a peasant (*barzgar*) in Persian, without reference to his actual faith.[8]

In fact, peasants were deemed to be free-born (*ḥurr-aṣl*) only in name. In an official's letter, where their free-born status is conceded in words, it is nevertheless contended that peasants were not entitled to leave their village and take up cultivation in another place because their poll tax (*jizya*) and land tax (*kharāj*) must be paid to the assignee of their original village.[9]

Peasants are often treated in our texts as an undifferentiated mass, but in fact there were, on the one hand, very poor peasants on the edge of subsistence, and on the other, the

more prosperous sort. Of the former, comprising much of the *ri'āyā*, that is, the peasantry at large, the pressure of taxation was severe. It is said that they had (sometimes?) to sell away even their women and children to pay the heavy land tax levied on them under 'Alā'uddīn Khaljī.[10] 'Afīf also recalled that in times before Fīroz Tughluq (1351–88), the peasants were so oppressed by the tax collectors as to be left with just one cow each.[11] But not all peasants belonged to such an entirely ravaged class. Baranī, in describing the effects of enhanced taxation, expressly distinguishes between 'the weak and resource-less peasants', who were totally devastated, and 'the prosperous peasants possessed of capital and chattel' who turned defiant and rebellious.[12] Dictionaries compiled during the period of the Sultanate give the word *angashta* for a rich peasant, who cultivated with the aid of many servants (*khidmatgārān*).[13] Among such villagers are doubtless to be counted the village headmen, the *khoṭ*s and *muqaddam*s.[14]

With a falsely Arabic spelling, the word *khoṭ* occurs only in Indian texts and so must be indigenous in origin, but its etymology remains obscure. Its earliest occurrence is in a tract on military matters written in Iltutmish's reign, where an anecdote is told in which we encounter the *khoṭ* of a village near Ghazni.[15] Qawwās's dictionary, written at Delhi in the early fourteenth century, explains the Persian word *dihqān* (village-head) by the word *khoṭ*.[16] The word occurs frequently in Baranī's account of agrarian conditions in northern India; and 'Iṣāmī (1351) furnishes an example of its use from the Deccan as well.[17] The phrase '*khoṭs* and *muqaddams*', as distinct from the common run of peasants (*ri'āyā'*), occurs in an official document of Fīroz Tughluq's time.[18] There does not seem to be any difference of meaning between *khoṭ* and *muqaddam* or headman: both the words are often used in pairs and as alternatives to each other.

From Baranī's statements, it transpires that before the harsh agrarian measures of 'Alā'uddīn Khaljī (1296–1316), the *khoṭs* did not pay the land tax (*kharāj*) or other taxes, which must have enabled them to cultivate large areas through hired labour, where the loss from a lack of close supervision and the labourer's lack of motivation would be more than made up by the exemption from taxation. The income so gained was augmented by a cess called *khoṭī*, which the *khoṭ*s imposed for their own benefit on fellow villagers.[19] The *khoṭ*s were prosperous enough to ride horses, wield arms, wear good clothes, chew betel leaves, and enjoy wine.[20] Even if this was true of some *khoṭ*s only, this was enough reason for 'Alāu'ddīn Khaljī to set out to suppress the whole class, and remove all grounds for its pretensions.

The essential object of the Sultan's policy was to draw in the *khoṭ*s' income into the state's coffers by imposing on them the land tax, poll tax, grazing tax and house tax (on these, see Chapter 9), and not allowing them to transfer this burden on to the shoulders of their fellow villagers. Simultaneously, the *khoṭī* cess was resumed to the government, the officers being ordered not 'to release' any of it to the *khoṭ*s[21] With some obvious degree of exaggeration, Baranī claims that the conditions of *khoṭ*s and *muqaddam*s became so miserable that their womenfolk had to seek service for wages in the houses of Muslims.[22]

The harsh policy of Alāu'ddīn Khaljī was considerably moderated by Ghiyāṣu'ddīn Tughluq (1320–24), who believed that the *khoṭ*s and *muqaddam*s formed an important agency for collecting the state's taxes from the bulk of the peasantry. While they could not be allowed to impose a levy (*qismat*) of their own, like the *khoṭī*, upon the peasants, it was impolitic to

impose the land tax and grazing tax upon them, for if they were granted no concessions and were made to pay tax like the ordinary peasants (*ri'āyā*), they would have no incentive to perform 'the numerous duties' they were sought to be burdened with.[23]

There was another swing of the pendulum under Muḥammad Tughluq (1224–51). In the early 1330s, the Sultan raised the burden of taxes in the Delhi and Doāb territories provoking a rebellion, which coincided with a failure of the rains and initiated a seven-year long famine over a large region of northern India.[24] The rebellion was thought to be the handiwork of the more prosperous section of peasants—'the rich peasants, who had capital and chattel'.[25] The Sultan's officers thereupon 'killed some of the *khoṭ*s and *muqaddam*s; and some they blinded; and those who escaped them, formed groups and retired into the forests'.[26] This picture of the character of the rebellion in which the upper rural sections played a notable part is reinforced by Ibn Baṭṭūṭa's description of the rebels his party encountered at Jalālī near Kol (modern Aligarh) in 1342—the rebels had 1,000 horsemen and 3,000 foot soldiers. Though Ibn Baṭṭūṭa's absolute numbers may be exaggerated, the ratio of horsemen to foot retainers—the former obviously drawn from the upper rural elements, and the latter, ordinary armed peasants, not being able to afford a horse—might be a fair indication of the composition of the rebel ranks.[27]

Whether Muḥammad Tughluq's project to improve agriculture by a large investment of resources in the Doāb in the 1340s (see Chapter 5) calmed the unrest is uncertain. But Fīroz Tughluq's adoption of a conciliatory policy is said to have restored much of the influence and position of the village headmen. In a return to the earlier days, 'the houses of *khoṭ*s and *muqaddam*s were now full of horses, cattle, foodgrains and goods'. As a prisoner at the fort of Bhatnair in Sultan Fīroz's earlier years, Baranī saw the mass of horses and cattle that the peasants, doubtless of the upper sort, could bring with them when fleeing from fear of a Mongol raid. He alleges that even horses worth 1,000 or 2,000 *ṭanka*s could be seen in their possession.[28] 'Afīf goes further and speaks of the houses of the peasantry (*ra'iyat*) as containing grain, wealth, horses and chattel in abundance; so too gold and silver, so that no women among the peasantry (*ri'āyā)* were now bereft of ornaments. In their houses were clean bedsheets, good beds, etc.![29] If all this was even in part true, it could surely have been true only of the village oligarchs, the *khoṭ*s and *muqaddam*s of Baranī.

We now pass on to the higher non-peasant classes holding rights of dominance over the rural inhabitants. The Persian texts speak of Indian rulers as *rāi*, from the Prakrit form of the Sanskrit *rājā*. The plural of this word is *rāyān* not *rāyagān* (which implies a non-existent singular *rāya*[*h*]). The latter, wherever it occurs in manuscripts (or printed texts), should be corrected to *rānagān* (or *rānakān*), which is the plural of *rāna* (or *rānak*).[30] The *Ṭabaqāt-i Nāṣirī* makes it clear that the *rāna*s were local potentates subordinate to the *rāi*.[31] This accords with the position assigned in the *Lekhapaddhati* documents (in Gujarat, in the thirteenth century and earlier) to the *rāṇaka* or *rāna*, a rural potentate immediately subordinate to the ruler, with an obligation to provide troops to the latter. In the lands held by the *rāṇaka*, he could make tax settlements with peasants or grant away taxation rights to intermediaries and retainers.[32] Within the upper Ganga basin, the *rāṇaka* appears in the same position in the Belkhara (Mirzapur district) pillar inscription of 1197, where after the titles of the Kanauj 'emperor' there is the name of the *rāṇaka* as the ruler (*rājye*), and then the actual builder of the pillar, a *rāuta*.[33]

Our thirteenth and earlier fourteenth-century sources mention the *rāṇa*s in practically every part of north India. The rebel Muḥammad Bā Ḥalīm gathered a number of '*rāṇa*s, *thakur*s and headmen' in southern Punjāb (near Multān) to oppose the Ghaznavid Sultan Bahrām Shāh (1117–57).[34] The *rāṇa*s were encountered in Sultanate military expeditions in the Doab in 1247–48, and in Malwa in 1251–52.[35] The *rāi*s and *rāṇa*s (or *rāṇaka*s) of Tirhut (eastern Bihar) were suppressed in the late 1330s by the governor of Awadh.[36] During 'Ainu'l Mulk Multānī's suppression of a rebellion by local officers in Gujarat during Mubārak Khaljī's reign (1316–20), 'the *rāṇa*s and headmen of that province' rallied to the royal cause.[37] When later Muḥammad Tughluq (1324–51) suppressed another revolt in Gujarāt in the mid-1340s, the province's '*rāṇa*s and *mehta*s' submitted to the Sultan.[38]

The nature of powers that the *rāṇa*s or *rāṇaka*s exercised in different localities in so extensive a region might have varied in detail, but it is of some interest that what the *Lekhapaddhati* divulges to us about their powers in Gujarat accords with the evidence of two important thirteenth-century inscriptions from Uttar Pradesh. The *rāṇaka* collected taxes in his territory and could grant away taxation rights and the control of villages or parcels of land to others, such as a *ṭhakkura*, without reference to the sovereign.[39] Within the Jaunpur district has been found a brick inscription dated 1217, which records that two *rā*(*uta*s) lent money to another *rā*(*uta*) upon a pledge of cultivated land, for which the *rāṇaka* stood surety.[40] One presumes that the *rāṇaka* could afford to stand surety in the present case because he had some authority over the *rāuta*'s land. The existence of such authority is confirmed by the Jhansi Fort inscription of 1262, which records the grant of a whole village by a *rāṇaka* to a *bhaṇḍāri* ('treasurer'), who was the son of a *rāuta*.[41]

*Rāuta*s in these inscriptions are clearly ranked beneath the *rāṇaka*s, and they are obviously more numerous. In the Mahoba Fort inscription (actually from Kasrak near Badaun), in an entry of 1234, the *rāuta*s are spoken of as a *jāti*, or caste.[42] '*Rāuta*' is actually the Prakrit form of *Rājaputra* (modern Hindi, Rājpūt); and a Rājaputra caste had established itself well before the thirteenth century.[43] And yet the word *rāuta/rājaputra* had other connotations as well. A very early work on the Arab conquest of Sind describes 'the sons of kings' (*ibnā'u'l mulūk*) accompanying the ruler Sind in battle (712–13) as picked horsemen.[44] Their designation is an obvious Arabic rendering of *rājaputra*. In the eleventh-century *Kathāsaritasāgara* by Somadeva of Kashmīr, *rājaputra*s appear as guards and warriors;[45] and in Kalhaṇa's *Rājataraṇgiṇi* (1149–50), they enter the history of Kashmīr, mainly in the eleventh century, as warriors, being paired twice with 'horsemen'.[46] References in Persian texts to *rāwat*s accords with this sense of warrior and horseman. In 1253–54, 'renowned *rāwat*s' are described as forming the ranks of the large army belonging to the ruler (*Rāi*) of Ranthambhor.[47] In 1291, 'Hindustani *rāwat*s and *pāyak*s' similarly formed the mass of the rebel Malik Chhajjū's army, recruited from the Kara and Awadh territories.[48] During the reign of 'Alāu'ddīn Khaljī, *Rāwat*s are mentioned as leading warriors and horsemen serving the rulers of Tilang (Andhra) and Ma'bar (the Pandya kingdom).[49]

Military prowess converted itself into land control, and we see that by the thirteenth century the *rājaputra*s or *rāuta*s had acquired the position of local land magnates. The *Lekhapaddhati* documents show that the nature of their rights over the land might vary a great deal. A *rājaputra* might hold land from the *rāṇaka* in return for supplying his lord with foot soldiers, horsemen and carriage-horses. In some villages assigned to a *rājaputra*, he simply collected taxes for the government, appearing as a tax payer himself. He might

also hold a village in gift from the *rāṇaka* on tax-free tenure.[50] The conditions in Gujarat appear to be matched by those in Uttar Pradesh. Here, in 1217, in the Jaunpur brick inscription, a *rāuta* pledges his own land against money borrowed from two other *rāuta*s; in 1227 in the sub-district of Kasrak near Badaun, a *rāuta* advanced money to Brahmans who pledged four villages and an additional levy ('the thirty-sixth portion', *shaṭṭraṁsatādāya*) in return.[51]

It can be conjectured that some of the *khoṭ*s and headmen, who are said to have enjoyed much authority over the village and to have borne arms, ridden horses, worn good clothes and chewed betel before 'Alā'uddin Khaljī's harsh measures destroyed or diminished their prosperity, were these very same *rāuta*s or their descendants. It is of some interest, however, that in the narratives of later events of the fourteenth century, the term *rāwat* practically disappears from the Persian texts and the word *rāna* too is rarely to be found in narratives of events in the core areas of the Sultanate. On the other hand, two new words make their appearance, *chaudhurī* and *zamīndār*, both suggestive perhaps of new conditions of agrarian society.

The *chaudhurī* seems to occur first of all in Baranī's account of Balban's return from Bengal. Here, *chaudhurī*s are sandwiched between *rāna*s and village headmen (*muqaddam*) among the worthies who gathered on the way to welcome the Sultan.[52] They reappear in the description of 'Alā'uddin Khaljī's measures, along with the *khoṭ*s and *muqaddam*s, sharing their loss of prosperity and the new condition of abject submission.[53] But unlike the *khoṭ*s and *muqaddam*s, we are not told what authority they previously had possessed and were now deprived of. This omission adds further value to what Ibn Baṭṭūṭa tells us. After speaking of Hindpat as a *ṣadī* ('hundred'), he goes on to explain as follows:

> The *ṣadī* in their usage is a group of a hundred villages. The territories dependent upon a town are divided into *ṣadī*s, each of which has a *jauṭarī* (Arabic transcription of *chaudhurī*), who is the headman (*shaikh*) of the local infidels, alongside a *mataṣarrif* (tax-collector), who collects the taxes.[54]

The designation *ṣadī* is not used in any Indian source for a local territorial division; however, Ibn Baṭṭūṭa himself uses the word *hazār* ('one thousand') for a larger district, that of Amroha.[55] Clearly, a territorial systematization was afoot, with perhaps a novel terminology adopted. Ultimately, the local division came to be called *pargana* (appearing in 'Isāmī, and then in 'Afīf), adopting an older name that had been current in some localities.[56] In a document as late as 1424–25, the sub-district of Amroha is simply called a *ma'āmala*, or revenue-division, the particular site of the grant confirmed being within the jurisdiction of a *chaudhurī* and *muqaddam*.[57] One assumes that the *chaudhurī* was expected to assist in the collection of tax within a particular group of villages (whether the whole *pargana* or part of it), just what the *muqaddam* had to do with respect to the village. As 'Afīf tells the story, when in the reign of 'Alā'uddin Khaljī Ghāzī Malik demanded revenue in cash in advance from the peasants of the territory of Rāna Mal Bhaṭṭī, near Dipalpur, it was 'the *muqaddams* and *chaudhurī*s' who were 'hit with bamboo-sticks and subjected to torture': obviously, the due payment of land tax was held to be their obligation in the first instance.[58]

The process by which the office of *chaudhurī* was distilled out of the mass of powers and rights enjoyed by the erstwhile *rāṇaka*s and *rāuta*s remains a closed book to us. To a

large measure, the new personage was divested of military power, although it is hard to understand how he could have helped in tax collection without the aid of some traditional retainers. But his major role was sought to be narrowed to mere tax gathering, and this doubtless could have been an important step in the process of reduction of the power and authority of the dominant local agrarian classes.

The history of the second term, '*zamīndār*', shows the effect of the same process of change.

This Persian compound, literally meaning 'land-holder or land-guardian', of an essentially Indian origin came into use only in the fourteenth century. Initially, it was used very broadly for any one in control over a territory. Qawwās (Delhi, early fourteenth century) in his dictionary treats it as equivalent to *marzbān*, regional ruler or governor.[59] Both Amīr Khusrau and Baranī employ it in the sense of a territorial chief, notably one in a kingdom outside the Sultanate.[60] But from here the meaning was extended to the governors and sub-governors or revenue-assignees (*muqṭi'*s, *wālī*s, and so on) of the Delhi Sultanate itself. This sense is implicit at one place and quite explicit in another in 'Iṣāmī (1350).[61] Baranī too mentions the *zamīdār*s along with scholars and notables of Multān who welcomed Sultan Fīroz Tughluq at Uchh in 1351, where the context would suggest that they were officials of some sort.

But a new meaning soon began to be given to the word. In 1468-69, the *Miftāḥu'l Fuẓalā* equates the word *marzbān* with *zamīndār*, while taking *marzbān* to mean 'guardian and owner of land'.[62] This sense was in fact imparted to the word *zamīndār* as early as 1353 when Fīroz Tughluq undertook his first expedition to Bengal. He issued a proclamation remitting one year's revenue to 'all *zamīndār*s, that is, of the class (*jin*s) of *muqaddam*s, *mafrozī*s, *mālik*s and such-like, from river Kosī to the limits of the country of Lakhnauti, such of them as join our world-protecting camp'.[63] Here, the first point to remember is that *zamīndār*s are treated as revenue payers; otherwise one year's tax remission would be no favour to them. The first sub-category mentioned, namely the *muqaddam*s or village headmen, need not detain us. They may be held to comprise the village oligarchs. The second, *mafrozī*, was a creation of the state itself. In an administrative manual written in 1359, *mafroz* is defined as a charge given to a person in lieu of the obligation to pay the tax due on it to the government.[64] Baranī says of Sultan Balban that he made 'cultivated lands' around certain forts of the Doab into *mafroz* (to be given over presumably to new land holders on promise of tax payment), and that he greatly strengthened authority over those places by settling groups of *mafrozī* Afghans and Muslims.[65] 'Alau'ddin Khalji, on his accession, confirmed—among other grants—the lands of the *mafrozī*s.[66]

Finally, there is the sub-category of *mālik*s. The context indicates that these were tax-paying land-owners, and not tax-free land-grantees also called *mālik*s.[67] It is likely that full-fledged landed property had come to exist in the land around the towns or in orchards. Such rights could have conceivably evolved from certain persons' undertaking the cultivation of virgin land and settling new villages, which did not mean that they were exempt from paying the land tax.[68]

To the draftsmen of Fīroz Tughluq's proclamation of 1353, the *zamīndār*s thus comprised categories of local potentates, state-appointed possessors and other land-owners, who collected and paid taxes. From the fiscal point of view, they could be treated as forming a single class, however miscellaneous their actual composition. In the early years of Fīroz Tughluq's reign

'Ainu'l Mulk 'Māhrū', the governor of Multān, was already viewing the class of *zamīndār*s as one of recalcitrant revenue payers. He reminds those who wished more revenue-paying lands to be alienated to theologians and ṣūfīs that this could not be acceded to since enough revenue had also to be reserved for payment of troops: 'For the *dihqān*s and *zamīndār*s are loyal subjects (*ri'āyā*) only in appearance and pay revenue only under the threat of the army and the thrust of the dagger.' In the past the *zamīndār*s were dominant in the region owing to the war equipage they possessed because of their wealth and resources: he wished to God that such conditions were not seen again.[69]

There was, finally, a set of categories of holders of grants, who were freed from the obligation to pay tax. These grants were collectively known as *idrār* or *idrārāt*, literally 'grants' (from the Arabic *darr*, to emit, to give).[70] Royal gifts of land typically involved the transfer of taxation rights to the grantee, or, in other words, an exemption of the grantee from paying the land tax and other dues.

The grants so made could be roughly classified as *milk*, *in'ām* and *waqf*.[71] *Milk* grants were those given to scholars (*dānishmand*) and religious divines (*mashā'ikh*).[72] A noble in 1313 sent an offering of 'two gardens, large extent of land, with chattel and tools for it', through a paper of *tamlīk* (transfer of *milk* rights) to Shaikh Niẓāmu'ddīn who, however, declined the gift.[73] Both property rights and exemption from tax appear to have been involved in the proffered gift. The *in'ām* grants were of the same nature, but tended to be given in recognition of some service. In 1249 Ulugh Khān (Balban), then a noble, gave a village in *in'ām* to Minhāj Sirāj; he was still in receipt of its annual revenue of 60,000 *jītal*s in 1260.[74] *In'ām* grants were also made as a means of providing pensions to old government officials.[75] Such grants ought to be distinguished from assignments made in lieu of service to be performed, such as the *iqṭā'*, or (later) the *wajh*, of soldiers. Royal soldiers and their descendants who had been given villages and lands in *iqṭā'* assignments by Iltutmish around Delhi and in the Doab apparently erroneously thought that these were *in'ām*, and that any obligation of service in lieu of holding them could only be nominal.[76]

Lands (cultivated and orchards) endowed for the upkeep of tombs, mystic hospices, *madrasa*s and mosques, and the subsistence of families connected with them were generally called *waqf*.[77] Those established by the Sultans involved assignments to the *waqf* of the revenues of villages or ear-marked lands.[78] Private individuals, including nobles, could establish *waqf*s, such as those of some villages instituted by 'Imādu'l Mulk in Balban's time. 'Imādu'l Mulk possibly obtained royal permission for the assignment of revenues on those villages to the *waqf*s, for such revenues (*maḥṣūl*) were being received by the beneficiaries in Baranī's own time.[79] As Māhrū pointed out, private grantors could only endow proprietary rights and not the state's tax (*ḥiṣṣa-i dīwānī*), although it might be politic for the state to later grant tax exemptions to the beneficiaries.[80]

Much uncertainty seems to have prevailed with regard to the permanence and inheritability of the various kinds of land grants. It was, first, necessary to show to officials concerned the original paper of the grant (*iṣbāt*), with the characteristic marks and symbols of the *Dīwānī* (seals were not then in use).[81] An anecdote told by Shaikh Naṣīru'ddīn (1354) related to the distress caused to a scholar possessed of an *idrār* when he lost the *farmān* by which he held his grant.[82] Equally troublesome was the question of *istiḥqāq*, literally meaning deserts, entitlement and, in technical usage, the reason for which the grant was made.[83] This matter could always be reopened and the legitimacy of a grant scrutinized.

Finally, there was the effect of the policies of individual Sultans. According to Baranī, ‘Alā’uddīn Khaljī began by confirming all land-grants (*imlāk*, *waqf,* lands of *mafrozī*s, *idrārāt* and *in‘ām*s) on the existing holders.[84] But later, ‘by one stroke of the pen, he ordered that wherever there was a village held in *milk* (land-grant), *in‘ām* or *waqf* by any one, it should be resumed to the *khāliṣa* (the King’s domain)’.[85] In fact, the resumptions, though probably extensive, were not total or wholesale. Certain grants, like two villages held by ‘Iṣāmī’s family, obtained from ‘rulers of old’, survived beyond ‘Alā’u’ddīn Khaljī’s time.[86] Baranī himself refers to grants made by ‘Alā’u’ddīn Khaljī, [87] and ‘Iṣāmī narrates a long story of how an honest and dedicated Hindu physician of Baran (mod. Bulandshahr) received full exemption of revenue upon land cultivated by him and his descendants.[88]

With Ghiyāṣu’ddīn Tughluq (1320-24) came another attempt at a scrutiny of the *istiḥqāq* of the grantees and a resumption of grants—a measure that Baranī applauds and ‘Iṣāmī, whose family lost its two villages, naturally condemns.[89] It is recognized by our sources that the grantees had their greatest patron in Sultan Fīroz Tughluq (1351–88).[90] He himself proclaimed that even if grants (*imlāk*) had been previously resumed, whoever could now lay claim to these and bring proof of previous possession, would have them back.[91]

From Fīroz Tughluq’s reign also comes some evidence of the extent of the revenues alienated through royal land grants. ‘Afīf tells us that 36 lakh *tanka*s of revenue were thus alienated.[92] This would have amounted to just 5.26 per cent of the total estimated revenues (6 crore 85 lakh *tanka*s), which he records elsewhere for the whole of Fīroz Tughluq’s dominions.[93] We must remember that in addition, there was probably a sizeable extent of land on which the local superior assignees, like *muqṭi‘s*, granted tax-exemptions for the periods of their own tenures. But even so, it is hardly to be imagined that the grantees formed a major section of the upper classes in the agrarian society of the time, although they were by no means a negligible component of it.

NOTES AND REFERENCES

1. Prasad, *Sanskrit Inscriptions*, pp. 97–98.
2. Baranī, *Tārīkh-i Fīrozshāhī*, p. 487, speaks of Niẓām Mā’īn as that ‘manikin, hemp-addict (*bhangṛī*), scavenger (*bhangī*), and nonsensical babbler’.
3. Ibid., p. 285.
4. See Habib, *Agrarian System*, p. 141 and *n*.
5. Baranī, *Tārīkh-i Fīrozshāhī*, p. 505. He gives here the names of some of Muḥammad Tughluq’s officers, whose lowly origins he condemns.
6. Ḥamīd Qalandar, *Khairu’l Majālis*, pp. 140, 172.
7. Ibid., p. 156.
8. Ḥājib Khairāt Dihlawī, *Dastūru’l Afāẓil* (dictionary, 1342–43), p. 200. Badāūnī in *Najātu’r Rashīd* (1590–91), p. 237, finds a very far-fetched explanation for this usage.
9. Letter of ‘Ainu’l Mulk Māhrū to *qāzī*s of Thanesar in the early years of the reign of Fīroz Tughluq. See ‘Ainu’l Mulk Māhrū, *Inshā’-i Māḥrū*, pp. 61–63.
10. Baranī, *Tārīkh-i Fīrozshāhī*, p. 340.
11. ‘Afīf, *Tārīkh-i Fīrozshāhī*, p. 98.
12. Baranī, *Tārīkh-i Fīrozshāhī*, p. 473.
13. Fakhruddīn Mubārakshāh Qawwās Ghaznavi, *Farhang-i Qawwās*, p. 180; *Miftāhu’l Fuẓalā*, f. 35a.
14. For a distinction between the ordinary peasants (*ri‘āyā*) and the village heads (*dihqān*s), see also Māhrū, *Inshā’-i Māḥrū*, p. 88.

15. Fakhr-i Mudabbir, *Ādābu'l Ḥarbu'sh Shujā'at*, p. 281.
16. Qawwās, *Farhang-i Qawwās*, p. 97. So also *Miftāḥu'l Fuẓalā*, (1368–69), f. 124b.
17. 'Iṣāmī, *Futūḥu's Salāṭīn*, p. 574.
18. Māhrū, *Inshā'-i Māḥrū*, pp. 21–22.
19. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 287, 291. The *khoṭī* cess is termed *ḥuqūq-i khoṭī* on p. 281 and *qismat-i khoṭī* on p. 291. Both the words *ḥuqūq* and *qismat* meant a tax or levy. For *khoṭī* as equivalent to the headman's perquisites (*kiyā'ī*), see *Miftāḥu'l Fuẓalā*, f. 256a.
20. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 287–88, 291.
21. Ibid., pp. 287–88.
22. Ibid., p. 288. 'Afīf, writing some nine decades later, drew a similar picture. Ghāzī Malik, governor of Dīpālpūr, demanded the entire revenue in advance in cash from the *chaudhurī*s and *muqaddam*s of Rāna Mal Bhaṭṭi's territory, subjecting them to bamboo blows and torture. 'Those were the days of Sultān 'Alā'u'ddīn: none could make any babble or noise' ('Afīf, *Tārīkh-i Fīrozshāhī*, pp. 37–38).
23. Baranī, *Tārīkh-i Fīrozshāhī*, p. 430.
24. Ibid., pp. 472–73. On the rebellion, see also Yaḥyā, *Tārīkh-i Mubārakshāhī*, pp. 102, 113.
25. Baranī, *Tārīkh-i Fīrozshāhī*, p. 473.
26. Ibid., p. 479. Cf. Yaḥyā, *Tārīkh-i Mubārakshāhī*, pp. 102, 113.
27. Ibn Baṭṭūṭa, *Riḥla*, pp. 532–33, tr. Husain, p. 153. Ibn Baṭṭūṭa himself was subsequently pursued by rebel horsemen and infantry. While escaping, he saw a party of 40 armed rebel horsemen who luckily did not see him (pp. 533, 535, tr. Husain, pp. 153, 155). There were some Muslims too among his rebel captors: two of them even spoke to Ibn Baṭṭūṭa in Persian (p. 534, tr. Husain, p. 154). Does this suggest that there were now some Muslim *khoṭ*s in the Doāb as well?
28. Baranī, *Tārīkh-i Fīrozshāhī*, p. 554.
29. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 98–100.
30. For the use of the true plural of *rāi—rāyān*—see Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, pp. 17, 58, while *rāna* in the singular occurs in ibid., II, pp. 56, 62, 72. The phrase '*rāyān o rānagān*' occuring in *Tabaqāt-i Nāṣirī*, II, pp. 17–18, as well as in Baranī, *Tārīkh-i Fīrozshāhī*, pp. 469, 587, shows again that the two plurals represented different singulars, and that the form *rāyagān* is a misreading.
31. The Chahamana ruler Prithivirāja ('*Rāi* Kola Pathora') is described as accompanied by 'all the *rānas*/*rāṇaka*s of Hindustan' at the first battle of Tarā'in, 1191 (Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, I, p. 399). On a later occasion, we are told: 'The possessor of this [fort of Silmūr (Sirmūr)] is a great *rāi*, and all the *rānas* of the surrounding territory, holding him superior, serve him' (*Ṭabaqāt-i Nāṣirī*, II, p. 73).
32. The position of the *rāṇaka/rāṇā*, as it emerges from *Lekhapaddhati*, is discussed by Pushpa Prasad in Chapter 2 in this volume.
33. See Prasad, *Sanskrit Inscriptions*, pp. 56–57, for text, translation and commentary.
34. Fakhr-i Mudabbir, *Ādābu'l Ḥarb u'sh-Shujā'at*, p. 278. In the fourteenth century, an official letter from Māhrū (in *Inshā'-i Māḥrū*, p. 88) discloses that although the *rāna*s of the province of Multān had earlier duly paid their tax, now they were refusing to do so in the most defiant manner.
35. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, I, pp. 480–81 and 485.
36. Ibid., II, pp. 17–18. On *rāna*s in Awadh, see also *Ṭabaqāt-i Nāṣirī*, II, p. 77, and on those in Malwa, ibid., II, pp. 62–63.
37. Baranī, *Tārīkh-i Fīrozshāhī*, p. 389.
38. Ibid., pp. 519, 523. It is perhaps the first use of the word *mehta* in any Persian text.
39. Pushpa Prasad's analysis in her translation of *Lekhapaddhati*, pp. 16–17.
40. Prasad, *Sanskrit Inscriptions*, pp. 78–79.
41. Ibid., pp. 106–10.
42. *Vāchila gotre Rāuta jātīya*, 'Vāchhila gotra in Rāuta caste'. Ibid., pp. 86, 88.
43. Cf. B.D. Chattopadhyaya, 'Origin of the Rajputs', *Indian Historical Review* (*IHR*), III(1), (1976), pp. 61–62, for early references to the 36 septs constituting the *Rājaputra* caste. See especially Kalhaṇa, *Rājataraṇgiṇi*, VII, 1617–18, tr. Stein, I, p. 393. Kalhaṇa brings his history down to 1149–50.

44. *Chachnāma*, pp. 169–70.
45. Aparna Chattopadhyay in *Journal of Asiatic Society of Bengal* (*JASB*), 4th ser., VIII, (1966), p. 111.
46. Kalhaṇa, *Rājataraṇgiṇi*, VII, 360, 1512–14, tr. Stein, I, pp. 297, 385. See also Sircar, *Indian Epigraphical Glossary*, pp. 269, 272, for references to *rājaputra*, *rāuta*, and other variant forms, explained as 'horsemen'. In southern India, the term *rāhutta-rāyan* occurs, and this is explained as 'a cavalry officer' (p. 269).
47. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 65.
48. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 181–84. If the form *pāyak* is correct, the *rāwat*s would represent horsemen and *pāyak*s the infantry. But the reading *nāyak* (chief) is also possible, though not admitted in either of the printed editions.
49. Khusrau, *Khazā'inu'l Futūḥ*, pp. 81, 84, 87, 89, 147, 151, 153.
50. See Pushpa Prasad's analysis of the documents in her translation of the *Lekhapaddhati*, pp. 13–16, and in Chapter 2. Early in the sixteenth century, Barbosa apparently drew on local tradition when he wrote (*c.* 1516) that before the 'Moors' (Muslims) occupied Gujarat, a 'race of Heathen whom the Moors call *Resbutos* … were the knights and wardens of the land' (Barbosa, *Book of Duarte Barbosa*, I, pp. 109–10).
51. Prasad, *Sanskrit Inscriptions*, pp. 78–89.
52. Baranī, *Tārīkh-i Fīrozshāhī*, p. 106.
53. Ibid., p. 288.
54. Ibn Baṭṭūṭa, *Riḥla*, p. 507, tr. Gibb, III, p. 741 (translation here slightly modified).
55. Ibid., p. 525, tr. Gibb, III, p. 762.
56. See the mention of the *pratigaṇaka* of Kasrak near Vodamayata (Badaun) in a copper plate of 1227 (Prasad, *Sanskrit Inscriptions*, pp. 82–83, 86–87). If Paul Horn's reading is right, *'pargana* Mūnk' (Panipat) occurs in an inscription at Panipat from the reign of 'Alā'ddīn Mas'ūd Shāh (1242–46) (*Epigraphia Indica,* II, pp. 136–37). For the use of the term (twice), once in relation to Delhi itself before it became the capital, and the second in the context of the Deccan, see 'Iṣāmī, *Futūḥu's Salāṭīn*, pp. 108, 398. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 399, treats it as the general designation of a sub-district.
57. Aligarh: History Department, Amroha Collection II, No. 13.
58. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 37–38.
59. Qawwās, *Farhang*, pp. 33, 88.
60. Khusrau, *Khazā'inu'l Futūḥ*, p. 55; Baranī, p. 326.
61. 'Iṣāmī, *Futūḥu's Salāṭīn*, is explicit when he says (p. 597) with regard to the early years of the Bahmani regime: 'Everywhere the *zamīndār* came forward to set right the affairs of his own *iqṭā'*.' The sense is implicit on p. 398.
62. *Miftāḥu'l Fuẓalā*, f. 270a.
63. Māhrū, *Inshā'-i Māḥrū*, p. 17.
64. Ghaznavī, *Dastūru'l Albāb fī 'Ilmu'l Ḥisāb*, f. 29a.
65. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 57–58 (Mewāt and Doāb). See also p. 106 for a reference to *mafrozī*s, again under Balban.
66. Ibid., p. 248.
67. Māhrū, *Inshā'-i Māḥrū*, pp. 16–17. A little below (p. 17) it is explained that 'of the *muqaddam*s*, mālik*s *(mālikān*), aspirants (*sā'ilān*, for which the editor seeks to read *rāyān*), potentates (*kabīrān*), etc., anyone who comes with his whole group of retainers would have his present *iqṭā'*, village, land, sustenance and allowances doubled; if he comes with half, it would be increased to one-and-a-half; if he comes alone the present entitlements would be confirmed.'
68. This point is made in Māhrū, *Inshā'-i Māḥrū*, pp. 38–39, the particular letter being dated 10 December 1361. 'Ainu'l Mulk Māhrū recommends in the letter that such land-owners in the Multan region, being 'scholars and mystics, engaged in praying for the welfare of His Majesty, and [also] the poor (*faqīr*)', may be granted exemption from the land tax.
69. Ibid., p. 75.

70. See, Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 248, for *idrārāt* (grants) and *idrār-<u>kh</u>warān* (persons who lived on them). Also Qalandar, *<u>Kh</u>airu'l Majālis*, p. 208 for *idrār*.
71. Cf. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 283.
72. Cf. Māhrū, *Inshā'-i Māḥrū*, pp. 38–39. In this particular case the proposed beneficiaries were already in possession: 'There is no doubt as to their claim as proprietors (*ḥiṣṣa-i milk*).' The double meaning of *milk* as ownership and grant can, on occasion, be confusing. The plural *imlāk*, on the other hand, definitely relates to tax-free land grants (cf. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 248; Fīroz Shāh, *Futūḥāt-i Fīrozshāhī*, p. 20).
73. Sijzī, *Fawā'idu'l Fuwād*, pp. 170–71. Niẓāmu'ddīn declined because he would need to look after 'cultivation and the land'.
74. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 61.
75. 'Whoever from amongst servants of government gets to an old age and becomes aged, we, after providing him with the wherewithal for subsistence (*wajh-i ma'āsh*), release him from service' (Fīroz Shāh in *Futūhāt-i Fīrozshahī*). *Wajh-i ma'āsh* or *madad-i ma'āsh* was a common term for a land grant.
76. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 62.
77. In Fīroz, *Futūhāt-i Fīrozshāhī*, pp. 18–19, there is a general reference to *waqf*s for '*madrasa*s, tombs and mausoleums of past Sultans and great saints, for expenses of travellers and for provisions in those holy places'. In Māhrū, *Inshā'-i Māḥrū*, pp. 37–38, there is a list of royal *waqf*s at Multān and Tulamba. See also pp. 13, 39–41, 55–56, 211–12.
78. Ibn Baṭṭūṭa gives an interesting account of the administration of the *waqf* for the tomb of Quṭbu'ddin Mubārak <u>Kh</u>aljī, the revenues of as many as 30 villages being assigned to it (*Riḥla*, p. 526, tr. Gibb, III, p. 760).
79. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 117.
80. Māhrū, *Inshā'-i Māḥrū*, pp. 38–39.
81. <u>Gh</u>aznavī, *Dastūru'l Albāb fī 'Ilmu'l Ḥisāb*, f. 27b.
82. Living in the town of Sarsāwa, he had to travel to Delhi, where after great difficulty he got the *farmān* renewed and rewritten (Ḥamīd Qalandar, *<u>Kh</u>airu'l Majālis*, p. 203).
83. <u>Gh</u>aznavī, *Dastūru'l Albāb fi 'Ilmu'l Ḥisāb*, f. 27b.
84. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 248.
85. Ibid., p. 283.
86. 'Iṣāmī, *Futūḥu's Salāṭīn*, pp. 390–91.
87. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 439.
88. 'Iṣāmī, *Futūḥu's Salāṭīn*, pp. 306, 309–10.
89. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 439; 'Iṣāmī, *Futūḥu's Salāṭīn*, pp. 390–91.
90. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 555; 'Afīf, *Tārīk<u>h</u>-i Fīrozshāhī*, pp. 179, 359–60.
91. Fīroz, *Futūhāt-i Fīrozshāhī*, p. 20.
92. 'Afīf, *Tārīk<u>h</u>-i Fīrozshāhī*, pp. 179, 359–60. He also says that 100 lakh *bīgha*s (*tanka* in the printed edition is an obvious error; *bīgha* is noted as a MS variant) of waste land were also granted to the needy and the poor.
93. 'Afif, *Tārīk<u>h</u>-i Fīrozshāhī*, pp. 94, 296. The editors, while reading '6 crores, 75 lakhs' on p. 94, note that two MSS read 85 lakhs instead of 75 lakhs.

CHAPTER 9

Land Tax and Other Rural Taxes

Irfan Habib

It is possible to argue that the system of agrarian taxation in the Delhi Sultanate had for its model what had come to prevail in the Punjab and Sind under the Ghaznavid administration for nearly two centuries. This is suggested not only by the mainly Arabic–Persian terminology used for the fiscal claims, but also by the fact that the *kẖarāj* or land tax now represented the major claim on the agricultural surplus, consistent with the practice in the early medieval Islamic world. But when we seek to know what the actual mode of land-revenue assessment and collection either in the Ghaznavid Empire or during the thirteenth century in the Sultanate was, we are hampered by a severe scantiness of materials.

Broadly, we can discern in the thirteenth century three distinct zones within the Sultanate: first, the area administered fairly closely by the Sultan and his assignees or governors (*muqṭi'*s, *wālī*s, and so on); second, areas under half-subjugated tribute-paying *raṇaka*s and similar other chiefs, whatever their designations;[1] and finally, the *mawā*s, areas on which authority was claimed, but from which no tax or tribute could be obtained.[2] We may suppose that a regular taxation system controlled by the Sultan's government could only have existed in the areas that fell under the first category. Here *wālī*s or *muqṭi'*s held charge of *iqṭā'*s, or territories, from which they collected taxes through their officials, whereby they maintained themselves and their own troops.[3] Their territorial charges were periodically transferred, as the biographies of nobles in the *Tabaqāt-i Nāṣirī* so well show.[4] Such transfers of *muqṭi'*s and their trains of officials might be expected to have facilitated some uniformity in the modes of tax administration, extending it from the more firmly held areas to the relatively recently acquired ones.

Another factor behind the uniformity could be the interests of the royal administration. In order to maintain the court in luxurious splendour and support a special royal army called the *ḥashm-i qalb*,[5] large areas had to be kept within the *kẖāliṣa,* or territory where the revenue was collected directly for the royal treasury. True, many villages in the *khāliṣa* itself were sub-assigned as *iqṭā'*s to soldiers of the *hashm-i qalb* from the time of Iltutmish onwards,[6] but this was probably how the *muqṭi'*s' troops were also paid. To collect revenue over the remaining parts, the *kẖāliṣa* had to have its own officials. Moreover, the royal domain was

not confined to the area around the capital. Thus, under Iltutmish (1210–36), we find a slave-officer serving as the *shaḥna* (superintendent) of the *khāliṣa* territories (*khāliṣāt*) around Tabarhinda (Bathinda) before being appointed to the post of the *muqṭi'* of Multan.[7] One may suppose that the experience of the management of taxation in the *khāliṣa* would also assist the sultan's administration in determining what revenues the various *iqṭā'*s could yield, and what surplus (*fawāẓil*) over and above the requirements of the *muqti'*s could then be claimed for the royal treasury. This seems ultimately to have led to the appointment of royal officers experienced in tax collection (*mutaṣarrif*) as *khwāja*s (accountants) within the *iqṭā'*s. Each *iqṭā'* apparently had one *khwāja* alongside the *muqṭi'*, seemingly to scrutinize on the Sultan's behalf the collections made by the *muqṭi'*. No such officer is mentioned by Minhāj Sirāj (1260), but a story about such an appointment under Balban (1266–87) is narrated by Baranī.[8] This anecdote is to be read with the same historian's statements that the principal minister under Balaban's successor, Mu'izzuddīn Kaiqubād (1287–90), proved able to collect 'the *fawāẓil* of the *iqṭā'*s of Hindustan';[9] and that it was a great concession to 'Alā'uddīn when his uncle, Sultan Jalālu'ddīn Khaljī (1290–96), permitted him to withhold payment of the *fawāẓil* due from his two *iqṭā'*s of Kara and Awadh.[10] In order to calculate the amount of *fawāẓil* that each *muqti'* should pay into the royal treasury, it was necessary to estimate the total revenues of the *iqṭā'*; and this naturally required the royal government to determine how much tax the *muqṭi'* should collect, and by what means. We do not know how much data was being thus collected, but it is of some interest that when in 1249 the historian Minhāj Sirāj received a village in *in'ām* from Ulugh Khān (the future Balban), the village carried a revenue of 30,000 *jītal*s, a sum he received annually till at least the date of writing (1260).[11] This suggests that the annual revenues expected from an *iqṭā'* could be built up out of revenues fixed or estimated for each of the villages it contained. Here, too, for making such estimates, some uniformity of methods of tax assessment and collection would need to be insisted upon.

The ground was thus prepared in the thirteenth century for vigorous measures at systemization of the land revenue system attempted by Sultan 'Alā'u'ddīn Khaljī (1296–1316). The most detailed (and largely internally consistent) account of these measures is offered by Baranī.

We may begin with the list of territories where, according to him, the agrarian measures of 'Alā'u'ddīn Khaljī were enforced. Besides the area around Delhi and the Doāb, it included 'the territory from Bayāna to Chhā'in, from Pālam to Dīpālpūr and Lahore, and the whole province (*wilāyat*) of Sāmāna and Sunām, and from Rewārī to Nagaur, from Kara to Kānaudī, from Amroha and Afghānpūr and Kābar, and from Dibhāī to Badāūn, Kasrak, Goyla (Gola?), and the whole of Kaṭehr.'[12] In other words the area from the Ravi to the Gomti was brought under a single revenue system. In this area, as outside of it, the system of *iqṭā'* assignments was not dispensed with, as one can see from Baranī's own list of various areas held by different *muqṭi'*s or *wālī*s.[13] However, not only was the *khāliṣa* enlarged, but within the *khāliṣa* the system of sub-assignments to soldiers was abolished, all the troops being now required to be paid in cash.[14] It is not unlikely that this fiat was also issued with respect to *muqṭi'*s' troops, for the admonition by Ghiyāṣuddīn Tughluq to *muqṭi'*s not to appropriate from revenue collections anything out of the sum assigned for the pay of their soldiers implies that the *muqṭi'*s' troops were expected to receive their pay in cash.[15]

The main object of the new system was explicitly to obtain half the produce (or half of its value) from all classes of actual cultivators.[16] The bald statement that Baranī makes about the land tax being set at half the produce does not occur in other texts, but Ibn Baṭṭūṭa noted on his journey in Bengal, *c*. 1346, that 'the infidels, placed under protection, pay half of the produce besides other dues (*waẓā'if*) in addition'.[17] How tax of this magnitude was to be assessed is indicated by Baranī in a singularly laconic sentence: 'Those who carry on cultivation, small or big, should do so [with tax assessed] in accordance with measurement and the yield (*wafā*) per *biswa* [one-twentieth of a *bīgha*], and pay, without any deduction (*tafāwat*) a half thereof.'[18] The method that this formula implies involves a three-stage process: first, the land under each crop was measured; then the standard yield rate per *biswa* determined for that crop was applied to the total area to obtain the total estimated yield; and of this yield, a half was to be claimed as tax. The crucial word is *wafā*, whose technical sense as 'yield' (now obsolete) was established by Moreland through references to the occurrences of this word in the histories of 'Afīf and Yaḥyā Sirhindī.[19] Since then the use of the same word in the same sense has been noticed in 'Iṣāmī's *Futuḥu's Salāṭīn*.[20] Perhaps the most definitive evidence comes from an administrative manual and glossary compiled in 1359, where a versified statement of yield rates of different crops bears the heading 'For imparting knowledge of *wafā* of foodgrains, etc., that a *bīgha* brings forth'.[21] We can then suppose that Ṭhakkura Pherū's yield rates per *bīgha* for various crops had probably also been derived from some local *wafā* rates that were in use in revenue administration.[22]

The question to be resolved is, how were the yield rates determined? For this we have only two indications. One comes from 'Iṣāmī's description of 'Alau'ddin's revenue minister Sharaf Qā'inī's inspection of the field of a physician of Baran (Bulandshahr):

> I have heard that the wise Qā'inī,
> Who was the Sagacious Minister of that age,
> Engaged in measuring (the land) (*misāhat kunān*), arrived at his field;
> He saw that the yield (*wafā*) here was the maximum possible (*kāmil*).[23]

One can only suppose that the minister was not surveying the entire land, but carrying out sample measurements and cuttings to determine local yields. The second, though slighter, indication is Baranī's use of *biswa*, and not *bīgha*, as the unit for which the yield rate was established. The most plausible reason for this seems to be that for the purpose of determining the yield rates, the sample plots where test-cuttings were carried out needed to be in small units like the *biswa*, rather than *bīgha*.

The question that remains open is whether the *wafā* schedules were prepared afresh every season, or were the standard rates for various kinds of lands in each locality that, being once prepared, continued to be applied, at best modified simply on the basis of the state of the current harvest. On these alternatives we have, one has to confess, no material.

The assessment did not necessarily end with the fixation of the tax demand in kind by multiplying the measured area by the *wafā* rate and halving the result. It was apparently as a special measure (let us say as his 'Measure A') that 'Alā'u'ddīn Khaljī ordered grain to be collected 'in lieu of the land-tax (*kharāj*)' in the *khāliṣa* districts of the Doāb. The grain so collected was to be brought to state granaries in Delhi. In the territories around Chhā'in (also

called the Shahr-i Nau, near Ranthambor in eastern Rajasthan), half the tax was to be collected in kind, the grain to be handed over to the grain transporters (*kārvānīs*) to bring it to the Delhi market.[24] It will be seen that in the areas where only half the tax was collected in kind, the other half would have had to be converted into money. Moreover, crops other than foodgrains, such as sugarcane, cotton, indigo, oil seeds, etc., are left unaccounted for. Tax on land sown with them could hardly have been collected in kind.

The area where the special collection-in-kind measures were decreed were confined to the *khāliṣa* in the Doāb and eastern Rajasthan. This brings us to what we may call 'Measure B'. It was decreed that in other areas (that is, those outside the *khāliṣa*) within the Doāb, the (assignees') revenue officials were to collect the revenue in cash immediately after the crop harvest, forcing the peasants to sell the grain to the *kārvānī*s 'by the side of the field', or to take their grain to the market (*manḍa*) themselves to sell at prices fixed by the Sultan.[25] In this case the tax demand fixed in kind would have to be commuted at rates that should, in theory, have been the rates fixed for the market price, minus transport and transaction costs, and with profit margins allowed to grain carriers. The entire system was connected closely with 'Alā'u'ddīn Khaljī's measures of price control, and could only be successful if the peasants were forcibly compelled to part with their produce at low rates.[26]

Along with the land tax, 'Alā'u'ddīn Khaljī is said to have levied two other taxes. One was *charāī*, literally grazing tax, on milch cattle, including buffalo and sheep; the other, the *garī* (=*gharī*) was imposed 'on every inhabited house'.[27] Since the rates of the two taxes are not given, it is not clear how burdensome they were. They could certainly draw into the tax net almost all inhabitants, whether cultivators or not, including the poorest.

Interesting evidence of the attempt to penetrate the village and ensure that every individual within it was taxed is provided by the first appearance of the village accountant and record-keeper, the *paṭwārī*. Under 'Alā'u'ddīn Khaljī, we are told, 'the *bahīs* (ledgers) of the *paṭwārīs*' were inspected, and if 'even one *jītal*' was found to have been exacted by any official for himself, he was put under the rack by the minister Sharaf Qā'ini.[28] The designation *paṭwārī* is made up of the words '*paṭṭa*' and '*wār*'. The first is an indigenous word meaning a document recording lease or allowing one to cultivate land on payment of tax or rent. The second word, *wār*, is a Persian suffix meaning 'similar to' or 'one-by-one', for example *asāmīwār*, 'name-by-name'. The designation of *paṭwārī* could therefore have only been a recent one, and it indicated that he was expected to record the name of each tax payer within the village and the tax payments received from each of them. This was an office essential for ensuring that the burden of the tax imposed on the village was properly distributed among its inhabitants, and the headmen, etc., were not left out. The village-level record was also important for detecting any leakages from the revenue collected. It is, indeed, in this latter context that the *paṭwārī*'s *bahī*s are referred to in our text.

Essential to 'Alā'u'ddīn Khaljī's success was the use of force and compulsion. What we have described as 'Measure B' before sets the context for 'Afīf's story about the local Governor Ghāzī Malik's device for obtaining for his brother Rajab the hand of the daughter of a local chief (*rāi*). In order to force the latter to agree he demanded the revenue for the whole year in cash (*dar naqd*) from the peasants of the chief's district (*talwandī*) near Abohar. The *chaudhurī*s and headmen were tortured:.'Those were the days of Sultan 'Alā'u'ddin: none could raise any babble or noise.'[29] Towards the end of 'Alā'u'ddīn Khaljī's reign, Shaikh

Niẓāmuddīn mused (11 August 1315) about 'persons who oppress people on account of the *kharāj* and *jizya* and tax on cultivated fields'.[30] It is difficult to believe that he did not have in mind the conditions prevalent in his own day.

When, after 'Alā'u'ddīn Khaljī's death, the system of price control was done away with under his successor Quṭbu'ddīn Mubārak Khaljī (1316–20), and the harshness in dealing with the upper rural classes was considerably moderated,[31] the revenue system instituted by 'Alā'u'ddīn Khaljī proved hard to maintain. For one thing, there would be the matter of commutation of tax assessed in kind into demand in cash. If grain and other prices rose, as Baranī tells us they did in the old price control zone, and if the commutation rates did not rise fully in proportion, then one could imagine that the 'Hindus', who had been greatly impoverished previously, gained immensely by 'the reduction in the land-tax (*kharāj-hā*)' so that they now bore all the customary marks of prosperity.[32]

Baranī claims that the next ruler, Ghiyāṣuddīn Tughluq (1320–24), greatly improved the revenue system. He is said to have aimed at a middle course between laying so excessive a burden on the peasants as to devastate the land on the one hand and granting such excessive concessions that room might be created for refractory elements among the 'Hindus' on the other.[33] In specific terms, three measures are ascribed to him. First, he held that the *kharāj* or land tax should be strictly based on the actual yield (*ḥāṣil*). From this one may infer that he was against the imposition of standard or ideal yields for fixing the revenue, but wished to have the tax based on local yield schedules worked out for each harvest. Second, he abolished all 'imposts and cesses on cultivated and untilled lands' (*muḥaddiṣāt o qismāt-i būd o nābūd*).[34] The set of imposts clearly included 'the *qismat* that *khoṭ*s and *muqaddam*s levied on the peasants (*ri'āya*) separate from the royal land tax (*kharāj-i sultānī*)', which the Sultan, according to the same passage, specifically forbade. Finally, unlike 'Alā'u'ddīn Khaljī, Ghiyāṣu'ddīn Tughluq exempted the *khoṭ*s and *muqaddam*s from 'paying tax (*qismat*) on their cultivation' and from paying the *charāī* (grazing tax) on their cattle.[35]

A policy of moderation in pressing fiscal claims upon the agrarian classes was supplemented by a similar policy of moderation towards revenue assignees or *muqṭi'*s. One source of pressure upon the peasants had indeed been the demand imposed on the *muqṭi'*s to collect larger amounts of revenue. The Sultan aimed at breaking up the networks of spies (*sā'iyān*), enhancement-mongers (*muwaffirān*) and revenue farmers (*muqāṭi'a-gīrān*), who sought to show how the *muqṭi'*s could be asked to increase the amount of revenue collection. He ruled that in no case should the revenues expected from an *iqṭā'* be increased by over 10 per cent upon such representations.[36] He similarly enjoined upon the royal auditors not to object if the nobles kept 5 per cent or 10 per cent of the total revenue collections for themselves.[37] It is clear that this amount was over and above what the nobles drew for their pay and for the maintenance of their forces from the revenues of the *iqṭā'*. These were earmarked separately, for the Sultan asked the nobles not to misappropriate any part of the revenues set apart for the pay of their troops. As to the revenue officials, if their shortfalls or misappropriations amounted to such minute sums as 1 or 0.5 per cent, besides their sanctioned salaries, they were not to be humiliated and tortured.[38]

These measures are lauded by Baranī,[39] but were as likely to suggest to his successor, Muḥammad Tughluq (1324–51), that a policy of moderation was an invitation to laxity. Muḥammad Tughluq, first of all, extended the procedures of financial administration that were

used in the towns and villages of the Doāb to the whole empire, and this was reflected in the renewed rigour with which accounts of the *iqṭā'*s were examined and the *fawāẓil* or revenue surpluses strictly collected from the *iqṭā'*s, 'not a penny being overlooked'.[40]

This success was a prelude to those 'projects' (*andesha-hā*) of the Sultan which proved to be so detrimental to his cause. The first of these projects, says Baranī, originated from his view that the Doāb could stand a considerable increase in taxation—'one to ten, or one to twenty', surely a rhetorical phrase. This being so, the increase was put into effect by creating new 'oppressive taxes' (*durusht abwābe*) and demanding so much in addition that 'the back of the peasants was broken'.[41] Writing about 100 years later and affirming the same intent on the Sultan's part (to increase taxation 'from one to twenty'), Yaḥyā Sirhindī provides some specific details.[42] First, the Sultan instituted 'the *gharī* and *charāī*, so that the cattle were marked with a brand and the houses of the peasants were counted'. Since these two taxes are already spoken of under 'Alā'u'ddīn Khaljī and Ghiyasu'ddin Tughluq had exempted only the headmen from *charāī*, we may suppose that these taxes were now levied with much greater rigour, and perhaps at higher rates. Second, the officials 'measured the fields, applied the prescribed yield rates (*waẓāha-i farmānī*) and commuted these at the prescribed price rates (*nirkhhā-i farmānī*)'. So far as this statement implies that the mode of tax assessment was based on measurement and application of yield rates (*waẓā*), we have here a reminder of the very same mode as had been adopted under 'Alā'u'ddīn Khaljī. But the additional qualification *farmānī* (prescribed) suggests that the yield rates were now those set as the official standard with no pretensions to represent the yield locally or currently obtainable. Similarly, when commuting the demand in kind into money, no regard was to be paid to the prices actually prevailing, and only the officially prescribed commutation rates were to be followed. Such measures could in practice greatly increase the tax burden if, for example, the commutation rates represented average market prices and not the harvest prices on the spot. This difference, added to the unreality of yield schedules, could result in an impossibly high tax demand.

The entire effort at raising revenue naturally meant that the revenue assignees needed to collect more from the peasants and render more to the treasury. This resulted in further subverting the powers of the *muqṭi'* or *wālī*. We are fortunate in possessing in Ibn Baṭṭūṭa's reminiscences an account of the district (*hazār*) of Amroha. Here the *wālī* had been reduced essentially to a revenue collector, so that *wālī al-kharāj*, '*wālī* of the revenue', is an alternative designation used for him by Ibn Baṭṭūṭa. The military command was separated and placed under an *amīr*, who apparently depended on the amount that the *wālī* was asked to pay him. The *wālī* of Amroha himself was expected to collect 6,000,000 *tanka*s from 1,500 villages. Of this amount he was to keep 5 per cent for himself, and presumably as a set-off against what he was to remit to Delhi, he was required to send to the capital 30,000 *man*s of grain. The situation was ripe for conflict between the *wālī* and the *amīr*, of which Ibn Baṭṭūṭa himself was a witness.[43]

Baranī tells us that Muḥammad Tughluq, during a long stay at Devgir, *c*. 1335, extended to the 'Marhat' country (Maharashtra) the same twin measures of increasing rural taxation by imposing additional *abwāb* and enhancing the pressure on revenue-assignees for larger revenue collections.[44] Similar efforts to enhance taxation are said to have devastated the territory of Mūltan.[45]

The rebellion that these measures provoked in the Doāb has already been discussed in Chapter 8, and the remarkable plan for the restoration of agriculture in the Doāb after a long period of famine that Muḥammad Tughluq tried to put into effect in the late years of the reign has been commented upon in Chapter 5. With his death in 1351 ended a tempestuous phase in the history of the Delhi Sultanate. His successor Fīroz Tughluq (1351–88) immediately resorted to a policy of concessions to pacify the elements whose hostility Muḥammad Tughluq seems to have almost deliberately courted.

Thus, on the one hand Fīroz Tughluq pardoned all those who had undermined Muḥammad Tughluq's grand project of agricultural development and wrote off all the amounts they had embezzled; and on the other, he set out to ease the fiscal pressure on the peasants. Baranī tells us that he promulgated two major decisions. First of all—and this the historian mentions in identical words twice—'the land tax (*kharāj-o-jizya*) was to be fixed in accordance with the actual produce (*bar-ḥukm-i ḥāṣil*)'.[46] If this injunction is read along with Yaḥyā's statement that Muḥammad Tughluq had decreed that the tax demand in kind be assessed according to prescribed yield rates and commuted at prescribed prices, one may suppose that Fīroz Tughluq now allowed the demand in kind to be fixed according to the actual yield (whether through grain sharing or measurement and sample-cutting) and commuted by the application of actual prices.

Such a measure was not without its own difficulties. This is shown by a problem discussed by 'Ainu'l Mulk Māhrū with respect to Mūltān, of which he was Governor, *c.*1361. Grain prices, which had been very high earlier, had now fallen greatly so that *juārī*, the Indian millet, which had borne a price as high as 80 *jītal*s per *man*, now sold for 8 *jītal*s. This necessarily resulted in a fall in the money received in tax, the revenue (*mahṣūl*) of the eight *pargana*s around Multan falling to 38,000 *tanka*s. The peasants insisted on paying in grain only, so that the troops' salaries could not be paid entirely in money, but were paid out 'half in silver and half in grain'. A proclamation addressed to peasants lays down that from 'the old peasants' (*ri'āyā-i qadīm*), that is, those cultivating land of old, the revenue would be taken 'half in silver and half in actual grain, as per old custom', while those who brought additional land into cultivation would need to pay in grain only.[47] This shows that prices being very low, peasants would be greatly disadvantaged if the tax was commuted into money at rates set by the authorities.

The two terms used for the land tax by Baranī in the passage we had just quoted from, namely *kharāj-o-jizya*, help to clarify another matter. There is a document in the *Inshā-i Māhrū* that may lead one to suppose that *jizya* was a tax separately imposed on all peasants.[48] But in an anecdote recorded in the *Fawāidu'l Fuwād*, Niẓāmuddīn takes *jizya* as a synonym of *kharāj* in the sense of land tax. It was being sought to be levied, in that particular case, on a Muslim dervish who had been cultivating some land.[49] In Baranī's passage *kharāj* and *jizya* are paired together to represent a single tax, assessed on the basis of *hāṣil* or crop yield. *Jizya* was obviously deemed to be subsumed in the *kharāj*. So far as peasants were concerned, then, the *jizya* as a separate tax does not seem to have been imposed at all.

The second set of measures that Baranī attributes to Fīroz Tughluq is the abolition of all the additional imposts that had been levied on the peasants in earlier regimes, like 'cesses (*qismāt*), excess demands (*ziyādat ṭalabīhā*), tax on non-existing assets or uncultivated lands (*nābūd-hā*) and numerous contrived burdens (*mu'tad-hā-i taṣawwurī*)'. Their collection was

forbidden.[50] Baranī does not mention here the taxes called *gharī* (house tax) and *charāī* (cattle tax), which had been levied at least since ʻAlāʼuʼddīn Khaljīʼs time. Their abolition apparently came later. Both taxes are included by the *Sīrat-i Fīrozshāhī*, written in 1370–71, among the various imposts abolished by Fīroz Tughluq.[51] The corresponding passage in Fīroz Tughluq's own *Futuḥāt-i Fīrozshāhī* also includes the two taxes among those abolished.[52]

Not only did Fīroz Tughluq thus relax the pressure on the peasants, he also began to dismantle much of the apparatus of the royal revenue administration. He did so partly by re-instituting the grant of sub-assignments, now termed *wajh*, in lieu of the soldiers' pay. There was much relaxation at the same time in the enforcement of the quality of mount and equipment that each trooper was required to maintain.[53]

Baranī connects the fiscal moderation of Fīroz Tughluq with a relaxation of pressure on the revenue assignees (*muqṭiʻ*s) and revenue officials (*ʻāmil*s) to produce more revenue, so as to increase the amounts of *fawāẓil* delivered to the royal exchequer. Now, however, ʻno arrears (*baqāyā*) remained due from the *iqṭāʻ*s and provinces and officials did not face the demand for payments (*muṭāliba*) from the Dīwān'. Nothing like this was seen in earlier reigns.[54] However, for quite some time detailed accounts continued to be called from the *iqṭāʻ*s, along with details of income (*jamaʻ*) and expenditure (*kharj*).[55]

Fīroz Tughluq ultimately sanctioned a measure by which the procedure of annual estimations of revenue collections and rendering of accounts on that basis was abandoned and a fixed amount was assigned to each territorial unit as the standard, all obligations of the *muqṭiʻ* being determined on this basis. ʻAfīf is our sole source for this measure which, however, was to prove of long-lasting importance.

When, after his accession, Fīroz Tughluq appointed Khān Jahān Maqbūl as the Vizier, the latter decided to determine anew (*sarbasta*) 'the [figures for] the revenue (*maḥṣūl*) of the Empire'. Thereupon Khwāja Ḥusāmu'ddīn Junaid was appointed to carry out the task. 'For six years,' ʻAfīf continues, 'the noble Khwāja went around in the provinces, and framed the revenue (*maḥṣūl*), in accordance with observation (*bar ḥukm-i mashāhida*), fixing 68,500,000 *tanka*s as the *jamaʻ* of the country for the purposes of the administration of the empire. During the forty years of the noble King Fīroz Shāh, this remained the *jamaʻ* of [the empire of] Delhi.'[56] Two regional sub-totals are also given. Of Gujarat, the *maḥṣūl* amounted to 20,000,000 *tanka*s and of the Doāb, 8,000,000 *tanka*s.[57] The term *jamaʻ* (lit. income) used for these figures, shows what these figures were supposed to do: they would replace for the central administration the detailed data on income (*jamaʻ*) that were previously demanded annually from all *iqṭāʻ*s.

Since the *jamaʻ* represented a concession to the assignment holders (*muqṭiʻ*s), it is not surprising that it enjoyed a long life. Bābur, after his victory over the Afghans in 1526, inherited an empire whose *jamaʻ* (*jamaʻ-i Hindustān*) he proceeds to give, broken into separate amounts for each *sarkār* or territorial division, the total being 52 crore billon *tankas*.[58] The technical name for this kind of figures carried down to villages, was now *jamaʻ-i raqamī*—a term that occurs in two documents of Bābur's own time.[59]

It is probable that as the power of the Delhi sultans declined from the late years of Fīroz Tughluq onwards, the *jamaʻ* tended to become in essence figures that expressed more the relative rather than the absolute values of territorial assignments. This being the case, the amount of revenue collected in each territory and the mode of its collection probably tended

to be left more and more to the discretion of the local governors and assignees. Our sources for the period after Fīroz Tughluq till the establishment of Mughal rule in 1526 yield only two passages that touch on the measures taken with respect to the land tax or other rural taxes.

In an account of Sikandar Lodī (1498–1517), it is recorded that despite the recognition of the heavy burden of *malba*, or officials' illegal exactions, it was ultimately felt that these could not be checked unless the Sultan himself took one end of the measuring rope (*jarīb*), and his vizier, the other. This implies that land revenue was still being assessed by applying crop schedules to measured land.[60] It is not certain, however, whether the tax was realized in kind or cash. In a rather late work on Afghān history, the *Tārīkh-i Dāūdī*, by an author who claimed to be writing in the time of Jahāngīr, that is, a full 100 years after Ibrāhīm Lodī (1517–26), we are told that Sultan Ibrāhīm directed that the nobles should collect the land tax only in kind. Since the nobles needed cash (*naqd*) for their own expenses, they immediately brought forth for sale the grain which had been gathered in large quantities in lieu of tax. This caused a fall in prices so that 10 *man*s of grain could be obtained for one billon coin, the *Bahlolī*.[61] It is possible that the author of the *Tārīkh-i Dāūdī* had access to a tradition whose earlier repository is no longer extant. But it is also possible that what, owing to a fall in prices, became a universal mode of revenue payment was attributed later to the deliberate orders of the last Lodī Sultan. As we have seen from the letters of 'Ainu'l Mulk Māhrū, once prices fell peasants were unable to pay the tax in money, or at the older rates fixed in money, forcing the authorities to shift to collections in kind. In other words, the shift to such a mode in Ibrāhīm Lodī's time was probably not due to the force of a royal decree, but a natural consequence of falling prices. This fall in turn possibly stemmed from a growing scarcity of silver;[62] however, this is a matter that is considered elsewhere in this volume.

NOTES AND REFERENCES

1. See Chapter 8 for this class.
2. See the use of the word *mawās*, see Minhāj Sirāj, *Tabaqāt-i Nāsirī*, I, p. 491, II, pp. 18, 19, 27, 29; Sijzī, *Fawā'idu'l Fuwād*, p. 227; 'Iṣāmī, *Futūḥu's Salāṭīn*, p. 606; Yaḥyā, *Tārīkh-i Mubārakshāhī*, p. 113. For its etymology and subsequent occurrences in texts, see Habib, *Agrarian System*, p. 379*n*.
3. See Niẓāmu'l Mulik Ṭūsī, *Siyāsatnāma*, p. 28, for the *muqṭi's* position in the Seljuqid Empire (eleventh and twelfth centuries). Seljuqid institutions greatly influenced those of the succeeding states.
4. Cf. Moreland, *Agrarian System*, pp. 217–18. For an explicit stipulation that a *muqṭi'* should be transferred every two or three years, see Niẓāmu'l Mulk Ṭūsī, *Siyāsatnāma*, p. 37.
5. See Minhāj Sirāj, *Tabaqāt-i Nāsirī*, II, p. 89, and Baranī, *Tārīkh-i Fīrozshāhī*, pp. 58–59, for occurrences of this term.
6. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 61–64. Baranī styles the troops holding these petty assignments as *iqṭā'dār*, not *muqṭi'* (p. 61).
7. Minhāj Sirāj,*Tabaqāt-i Nāsirī*, II, pp. 19–20. The officer was Qaraqash Aitagin.
8. Baranī, *Tārīkh-i Fīrozshāhī*, p. 36. Baranī himself goes on to put in the mouth of Balban an anecdote which suggests that this position existed in Iltutmish's time as well (p. 38).
9. Ibid., p. 164.
10. Ibid., pp. 220–21.
11. Minhāj Sirāj, *Tabaqāt-i Nāsirī*, II, p. 61.
12. Baranī, *Tārīkh-i Fīrozshāhī*, p. 288. Apart from what are still fairly well-known places, see Habib, *Atlas of the Mughal Empire*, for the following places: Chhain (26–, 76+), Kānauda (=Kānaudi) (28+, 76+), Afghānpūr (29–, 78+), Kābar (28+, 79+), Dibāī (28+, 78+), and Gola (=Goyla) (28+, 80+), all

to be found in Sheet 6A and 8A of the *Atlas*. On Kasrak ('Kharak' in the printed text), see Prasad, *Sanskrit Inscriptions*, pp. 81–82. It is now a village in Tilhar tehsil, Shahjahanpur district.

13. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 324–25, where it is also stated that 'the whole country of the Doāb was made subject to authority as if it was a single village, and was brought into the *khāliṣa*'.
14. Ibid., p. 324; 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 94–95.
15. Baranī, *Tārīkh-i Fīrozshāhī*, p. 431.
16. Ibid., p. 287.
17. Ibn Baṭṭūṭa, *Riḥla*, pp. 614–15; tr. Gibb-Beckingham, IV, p. 872 must be preferred here to Mahdi Husain's translation, p. 241, where *wazā'if* (pl. of *waẓīfa*) is rendered as duties to be performed.
18. *Ba-ḥukm-i misāḥat-o-wafā-i biswa* (Baranī, p. 287; also see p. 299).
19. See Moreland, *Agrarian System*, p. 226, where Afīf, *Tārīkh-i Fīrozshāhī*, p. 180, and Yaḥyā, *Tārīkh-i Mubārakshāhī*, p. 102 (Moreland, however, cited a MS) are referred to.
20. 'Iṣāmī, *Futūḥu's Salāṭīn*, p. 311 (three occurrences). Cf. Hodivala, *Studies in Indo-Muslim History*, II, pp. 97–98.
21. Ghaznavī, *Dastūru'l Albāb fī 'Ilmu'l Ḥisāb*, f.102b, 102a.
22. See Pherū's *Gaṇitasāra*, 5.4–5.8, pp. 105–06.
23. 'Iṣāmī, *Futūḥu's Salāṭīn*, p. 311.
24. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 305–06. For a translation of this passage, see Irfan Habib in *IESHR*, XXI(4), 1984, p. 400.
25. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 307–08. In Rashid edn, the form *manḍī* is used instead of *manḍa*. For a translation., see *IESHR*, XXI(4), 1984, pp. 400–01.
26. See Irfan Habib in IESHR, XXI(4), 1984, pp. 398–403, 413–14, for the fuller argument.
27. Baranī, *Tārīkh-i Fīrozshāhī*, p. 287. For *gharī* see also Hodivala *Studies in Indo-Muslim History*, I, p. 278.
28. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 288–89.
29. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 36–39. Ghāzī Malik, of course, obtained what he wanted.
30. Sijzī, *Fawā'idu'l Fuwād*, pp. 232–33.
31. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 383–85.
32. Ibid., p. 385. It need not be said that such prosperity could have prevailed only among the upper rural classes.
33. Ibid., pp. 429–30.
34. Moreland's rendering of this phrase as 'innovations and apportionments based on crop failure' is wholly erroneous because of his attempt to translate the first two words *muḥaddiṣāt* and *qismāt* literally. That the word *muḥaddiṣ* meant a tax is shown by repeated references to it in this sense in Māhrū, *Inshā'-i Māḥrū*, p. 48, and in *Sīrat-i Fīrozshāhī*, pp. 117–18. For *qismāt* as a cess or impost, see Baranī, *Tārīkh-i Fīrozshāhī*, p. 291 (*qismāt-i khoṭī*) and p. 574 (*qismāt*), and within the present passage itself. *Nābūd*, in the sense of lands not bearing crop, occurs in Mughal documents (Habib, *Agrarian System*, p. 252 and *n.*). On p. 574 Baranī has *nābūd-hā*, in the sense obviously of taxes on non-existing assets.
35. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 429–30.
36. Ibid. Baranī uses here and at another place (p. 431) the expression *yak-dah yāzidah*, where *yāzidah* means 'appropriated' from the verb *yāzidan;* it is not *yāzdah*, 11. The words *yak-dah* could then be taken to an inverted form of the usual *dah-yak*, one-tenth. Cf. Hodivala, *Indo-Muslim History*, II, pp. 108–09, where, curiously enough, a proper explanation is not offered for his correct interpretation of the formula.
37. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 430–31. Here the phrase should read *nīm-dah yāzida wa yak-dah yāzida*, not *nīm-dah yāzdah wa yak-dah pānzdah* as in the printed ed.
38. Baranī, *Tārīkh-i Fīrozshāhī*, p. 431. Here, for the minute percentage Baranī offers the expressions *panj-hazārī* and *dah-hazārī*, '5 out of 1,000' and '10 out of 1,000'. The implication in this passage that the revenues to meet the pay of the troops were specifically earmarked within an iqṭā[6] seems to be confirmed by the report in the *Masālik al-Abṣār*, ed. Fariq, pp. 25-27, tr. Spies et al., pp. 28-29) that the troops (jund), received this pay in cash out of the treasury (*diwān*) and not out of the personal assignments *iqṭā'at*) of the commanders.
39. Ibid., p. 432.

40. Ibid., pp. 468–69.
41. Ibid., pp. 472–73. I assume that *durust* in the printed text stands for *durusht*.
42. Yahyā, *Tārīkh-i Mubārakshāhī*, pp. 101–02.
43. Ibn Baṭṭūṭa, *Riḥla*, pp. 525–27, tr. Gibb, III, pp. 762–64.
44. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 480–81.
45. Māhrū, *Inshā'-i Māḥrū*, pp. 78–79, attributing the devastation to the conduct of 'Imādu'l Mulk, the previous governor.
46. Baranī, *Tārīkh-i Fīrozshāhī*, p. 574. The significance of *jizya* being attached to *kharāj* here will be discussed presently.
47. Māhrū, *Inshā'-i Māḥrū*, pp. 74–76, 213–14.
48. Ibid., pp. 61–63.
49. Sijzī, *Fawā'idu'l Fuwād*, pp. 232–33 (conversation, 11 August 1315).
50. Baranī, *Tārīkh-i Fīrozshāhī*, p. 574. Should *taṣawwurī* be a misprint for *quṣūrī*, the last could mean numerous fines imposed for defaults.
51. *Sirāt-i Fīrozshāhī*, pp. 117–18.
52. The list in Fīroz, *Futūhāt-i Fīrozshāhī*, pp. 5–6, is practically identical with that in the *Sīrat-i Fīrozshāhī*. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 379, gives the date of the abolition of the unlawful taxes as 1375–76; however, they already appear in the *Sīrat-i Fīrozshāhī* completed in 1370-71. 'Afīf does not mention *gharī* and *charāī* among the abolished taxes.
53. Baranī, *Tārīkh-i Fīrozshāhī*, p. 553; 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 94–96, 220, 298–301.
54. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 574–75.
55. Such accounts were kept in *daftar-i Jāmi' al-Ḥisāb*, according to *Dastūru'l Albāb fi 'Ilmu'l Ḥisāb* (1359), ff.43b-44a. The dispute between the Vizier, Khān-i Jahān and the Mushrif-i Mamālik, 'Ainu'l Mulk Māhrū, occurred over the procedure of audit of the detailed papers on expenditure (*kharj-i mufaṣṣil*), which were the concern of the *mustaufi*: the *mushrif* was supposed to deal with the income (*jama'*) figures alone ('Afīf, pp. *Tārīkh-i Fīrozshāhī*, pp. 408–10).
56. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 94. The printed edition gives the figure of the total revenues as 67,500,000, but notes that two MSS have the figure given in our quotation. 'Afīf, again, gives the same total 6,85,00,000 on p. 296, and here the printed edn indicates no MS variants.
57. Ibid., pp. 221, 296.
58. Bābur, *Bāburnāma*, pp. 469-70. There is no doubt that *jamī' Hindustān* in the printed edn is an error for *jama'-i Hindustān*. In the MSS of Shaikh Zain's *Ṭabaqāt-i Bāburī*, a closely contemporary work, the words *jama'-i Hindustān* are clearly written at the head of the same table (Br. Lib. Or. 1999 f.67b–69b; Add. 26202, ff68a–69a).
59. Cf. Habib, *Agrarian System*, pp. 303–04 and *n.*
60. Niẓāmu'ddīn Aḥmad, *Ṭabaqāt-i Akbarī*, I, pp. 340–41.
61. 'Abdullāh (or 'Ubaidullāh), *Tārīkh-i Dāūdī*, pp. 104–05. The reference to Jahāngīr is on p. 54.
62. Significantly enough, 'Abdullah himself notes that 'gold and silver had became scarce' at the time (*Tārīkh-i Dāūdī*, p. 105). See, however, Chapter 14 for a different interpretation.

CHAPTER 10

Non-agricultural Production

Irfan Habib

EXTRACTIVE INDUSTRIES AND METALLURGY

The information we have on extractive industries (besides the little we know about what was gathered from forests, for which see Chapter 3) is fragmentary in the extreme. Marco Polo tells us of diamonds being collected in the kingdom of Mutfili (Motapalle) or Andhra.[1] He says that these were picked up from river beds, or, adding a touch of the Sindbad story, from the ground when dropped by wild eagles flying over the mountains. Nikitin, travelling in the Deccan in 1468–74, reported that diamonds were collected from a rocky hill near Raichur ('Rachoor'), and he actually visited Kurnool ('Kooroola') where these were worked on, attracting 300 'dealers in diamonds'.[2] The cornelian and agate mines of Rajpipla near Khambhat or Cambay in Gujarat are mentioned by Conti (who travelled from 1419 to 1444) as well as by Nikitin.[3]

The pearl fisheries of the Gulf of Mannar are described accurately and in some detail by Marco Polo;[4] and those on the Sri Lankan coast are noted by Ibn Baṭṭuṭa.[5] Conti places the Gulf of Mannar fishery off the port of Palanyakay ('Cahila').[6]

The salt mines of the Salt Range are not mentioned in the sources of the period, but the suffixing of the word *namak* (salt) to the name of Sāṁbhar shows that salt was being collected from the heavily saline Sambhar Lake.[7]

Stone-quarrying was an ancient and extensive industry in India. The great buildings of the Sultans especially required that stones be quarried from neighbouring hills, and so too limestone for the lime-mortar that had now come into use.[8] There are no contemporary descriptions of any of the mines and quarries. That is why the archaeological excavations at Rajasthan copper and zinc mines, especially those at Zāwar, are likely to give us much valuable information, especially on the apparently sophisticated mining operations carried on there. At Zāwar, the shafts ultimately reached depths of 120 meters or more.[9]

The Zāwar mines represent a landmark of some importance in the history of Indian metallurgy. In the latter part of the first millennium B.C., the mines had been worked mainly for silver, with zinc ores obtained by reduction and then used in brass manufacture by the cementation process.[10] After the mines had lain dormant for over a millennium, fresh

exploitation began in the thirteenth century with zinc as the primary product, isolated by a distillation process, an innovation of much interest.[11] The argument adduced for zinc isolation earlier, based merely on the presence of a high proportion of zinc in brass, is not persuasive for either India or China.[12] However, from the thirteenth and fourteenth century at Zāwar, there are remains of retorts and furnaces attesting to the actual extraction of zinc by distillation. One tends to wonder whether, if there was no other factor at work, the incursion of new distillation devices from the Islamic world in the thirteenth century (such as for liquor and rosewater, see Chapter 6) was not responsible for the application of stills to obtain zinc. That its isolation was in any case regarded in the sixteenth century as a recent event is shown by the following remarks of Abu'l Faẓl (1595): 'Zinc (*jast*) is deemed by some to be similar to mercury, by others to lead. Nothing about it is mentioned in scientific texts. It is mined near Jāwar (Zāwar) in the province of Ajmer.'[13] There is little doubt that zinc production through distillation must have greatly revived brass manufacture, which, if one goes by surviving artifacts, is not much attested in India throughout the first millennium.[14]

Another innovation in Indian metallurgy was the technique of tinning of copper vessels, which made it possible to use them for cooking. The practice is supposed to have come with Muslims, and the earliest extant copper container bearing marks of tinning is said to be one found at Brahmapuri (Kolhapur district, Maharashtra), associated with Bahmani coins of the fourteenth and fifteenth centuries.[15]

India, in its central parts and in the Peninsula, has extensive good quality iron ores found close to the surface; and it has an ancient history of steel-making.[16] By the thirteenth century, India had long established its reputation for the wootz form of damascene steel. In a work on the science of warfare written in the early years of Iltutmish's reign, Fakhr-i Mudabbir highly praises swords manufactured in India, putting them in quality above those of other countries. According to him, these were made by combining soft iron (wrought iron) with copper and silver. Describing the best of such steel swords made at Korij (Kotesar) in Kachchh, near the Indus delta, he says that the ironsmiths first heated two bars of steeled iron, then put them in charcoal within a crucible heated by a constant working of the bellows until the two bars melted and merged with each other. Taken out, shaped into a sword and put under the wheel, presumably to sharpen the sword's edges, vinegar was applied to its surface, after which a fine damascene sword emerged.[17] It is interesting that this account well conforms to modern reports of how wootz steel was manufactured.[18]

While 'wootz' manufacture represented the continued use of an older technology,[19] it is probable that the great size of the Delhi army created a larger market for swords and so enlarged the volume of steel manufactured in India.

There is some evidence for new tools as well. Metal wire was made by forging until the tenth century, when the draw-plate made its appearance in Europe; in Iran there is an explicit allusion to it in a verse of Khāqānī (twelfth century).[20] The country where it was invented is apparently unknown. In India it seems to be first described in the *Miftāḥu'l Fuẓalā*, datable to 1469, under the name *shafshāhang* as 'the iron board with holes of different (sizes) through which wires of gold, silver, etc., are drawn'. The unique manuscript of the work shows metal wire being drawn through holes in the board, one end of the wire held by pliers (well-drawn), and the other wound round a spool.[21]

There was also some expansion in the inventory of iron products. Notable among these were the two crucial items of horse equipment, the stirrup and the horseshoe. Devices by

which the rider's legs could be given some support had appeared in ancient India, only to disappear.[22] Stirrups are not found on representations of the horseman on Gupta gold coins or on Ajanta paintings.[23] Arabic texts suggest that a primitive form of footrest had come into use, made of wood or leather, by the seventh century in Sistan. Although this is held by Lynn White Jr to be unlikely,[24] Indian evidence appears to corroborate the tradition of an earlier non-metallic stirrup. The Khajuraho sculptures of the tenth century show bow-faced stirrups with broad flat rests, which, given their shape and size, could only be of leather and wood.[25] In the twelfth and thirteenth centuries, the stirrup appearing in Hoysala sculpture in Karnataka is generally of the shape of a large and broad ring, 'apparently made of layers of leather stitched together or of wood cut into a log'.[26] We may, then, suppose that when Waṣṣāf, speaking of the conditions in south India in the 1290s, refers to the short life of imported Persian horses there and attributes it in part to the absence of the use of stirrups,[27] he must be having in mind only iron stirrups.

There is good evidence to show that the iron stirrup had come into use in Arab armies by the late seventh century, and was in use somewhat earlier still in Central Asia and Iran.[28] The Arabic word *rikāb* came to apply to the iron stirrup in Persian as well, and as such its frequent use in the literature of the Sultanate period attests to its universal presence in horse-equipment of the time.[29] It is possible that some use of the iron stirrup in some parts of India preceded the arrival of the Sultanate armies there. Gode draws our attention to the mention of a golden *pādādhāra* or stirrup of gold hanging down on both sides of the horse in a work composed by the Chalukyan king Someśvara of Kalyani in *c.*1130.[30] Deloche also concedes that some stirrups shown in Hoysala sculpture of the twelfth and thirteenth centuries might, indeed, have been of iron.[31]

The history of the iron horse-shoe is apparently much shorter than that of the stirrup. These are first found in riders' graves in the Yenessei region of Siberia only in the ninth and tenth centuries, and almost simultaneously appear in Europe as well.[32] Horse-shoes (*na'l*) of iron and steel are mentioned in the verses of the Ghaznavid poet Mas'ūd Sa'd Salmān (*c.* 1131) and the Persian poet Nizāmī Ganjawī (d. 1202–03).[33] Fakhr-i Mudabbir in his work on warfare, written during Iltutmish's reign (1210–36), mentions how a horse was shod with *na'l*,[34] and Amīr Khusrau in 1283–84 tells us of the curious quality of the horse—when nails (*mekh*) are driven into its hooves, it runs better.[35] Marco Polo says, in a seeming variant of Waṣṣaf's account of the ill-care shown to horses in southern India in the 1290s, that there were no farriers there.[36] Deloche notes in his study of the Hoysala sculpture of Karnataka that while horses do not generally appear to be shod, nailed shoes appear clearly in representations of horses at Somanathapuram in the second half of the thirteenth century.[37] In other words, the farriers' craft had arrived in south India by the end of that century.

India was still far away from the ability to cast iron. The weakness lay essentially in the bellows, which still consisted merely of leather bags, alternately opened and deflated to blow air into the furnace.[38]

TEXTILES

In our description of agricultural manufacturers (in Chapter 6), we traced the technique of fibre-processing till the stage of spinning, and considered the subsequent stages to belong

more properly to 'industrial' manufacture. We may, therefore, begin with the process of weaving here.

The horizontal loom has no early depictions in India, but was certainly in use in ancient times.[39] A vital addition to it, the treadle, to work the harness to open and close the warp-shed was in use in China by the early centuries of the Christian era.[40] But the diffusion of this most useful appendage to the loom to countries outside China came about only much later. In Europe, its appearance is datable to the late twelfth and early thirteenth century.[41] A reference to treadles has been found in the verses of an Arabic poet of Spain, al-Rusafi (d. 1177).[42] Eastward, in the Iranian world, the device is attested at an equally early date, the loom pedals (*lauḥ-pāy*) being mentioned in a verse of the Persian poet Khāqānī (d. 1199).[43] The earliest evidence of the device in India, however, can be pegged only to the fifteenth century. The *Miftāḥu'l Fuẓalā* (1468–69) defines *lauḥ-pāy* as 'the board which the weaver keeps under his foot and then weaves'. The unique manuscript of the work also contains a painting, showing the weaver operating the shed through the pedals.[44] We can perhaps infer that the device had been received from the Iranic world during the previous one or two centuries. The weaver's hands were now left free to handle the shuttle, while the shed opened and closed by the alternating movements of his feet. This naturally enabled him to get the cloth woven much faster— perhaps even 10 times faster.[45] So, if the efficiency of the spinner increased due to the spinning wheel, first attested in 1350, then the weaver was also able, through the newly introduced treadles, to increase his pace and to handle a much larger amount of spun yarn in the same amount of time. On account of these technological changes, there was bound to follow a considerable increase in cotton textile production in both its major sectors, spinning and weaving.[46]

There is no evidence with us of any further improvements in the weaver's loom, there being no proof, for example, that the drawloom was employed. Patterns could be woven instead by the weaver (aided by an assistant) making the weft pass through different sets of warp-threads. There was also the method of pre-dyeing the warp and weft, and then weaving them on the simple loom to bring out the pre-determined patterns. This process demands extreme exactitude in dyeing sections of the yarn, and much skill in weaving, so that it was economically possible only when an expensive fibre like silk was used. The product was known as *paṭola*. Ṭhakkura Pherū classes *paṭola* among fine silks;[47] and Baranī includes *paṭola* (paired with silk) among the important items of booty obtained by 'Alāu'ddīn Khaljī from his Devagiri expedition.[48]

It is possible that the vertical loom for shawl manufacture was introduced in Kashmir in the fourteenth or fifteenth century, as is widely believed.[49] There seems to be no reference to shawl manufacture in the *Rājataraṅgiṇi*; and it is likely that the loom was adapted from the vertical looms used in Persian carpet-weaving.[50]

Once the cloth was woven, then—except in the case of the *patola* cloth and the cotton calicoes—the work of dyeing commenced. Evidence for dyed cloth from ancient times comes from depictions of it in Ajanta frescoes and other paintings, mentions of it in Indian literary texts and fragments of Indian cotton cloth surviving mostly outside India. It would seem that the application of mordants and resists to the cloth surface in order to produce colour patterns while immersing the whole in particular dyes could be pre-Sultanate in date. The so-called Fostat cloth fragments from India, collected in Egypt without archaeological contexts but

bearing witness to this method, have now been carbon-dated to as early as the eleventh century.[51]

Among other methods employed to form colour patterns on cloth, there was the tie-dye method (now called *bāndhna*, English 'bandana'). Aurel Stein discovered in Xinjiang (western China) a blue piece of cloth with white flower-like patterns ('knot-dyed'), which could be dated to no later than the eighth century.[52] V.S. Agrawala located a reference to this device (*bandhyamāna*) in Bāṇa's *Harshacharita*, which means that it was already practised in the early seventh century.[53]

It is likely that stencilling was much in use, and this makes it very difficult to distinguish pattern-repeats attained through stencilling from block-printing proper. It is thus possible that many early fragmentary cloth specimens supposed to carry block impressions bear only stencilled repeats. A similar problem arises with clay stamps found at ancient sites, which have often been taken to be printing blocks.[54] It is almost certain that these 'stamps' were intended to be used as moulds for plastic material like wet clay, and could hardly withstand being stamped on cloth, placed necessarily on a hard surface. Here wood or stone stamps would alone have served.

John Irwin in fact argued that there was no proof that wooden blocks for cloth-printing were in use in India before the seventeenth century, and suggested that the craft came to India from Iran.[55] But Ackerman found no evidence for cloth-printing in Iran at any time before the seventeenth century.[56] The linguistic evidence in fact suggests a contrary direction of diffusion.

The word *chīt*, which seventeenth-century Iranian poets like Ṭāhir Waḥīd and Ṭughrā used for cloth printed with the wooden stamp (*qālib*), is of Indian origin, from *chhīnṭ* (whence the European 'chintz').[57] Bahār's great dictionary equates *qālib* (stamp) with the Hindī *chhāpa*.[58] The etymology of *chhīnṭ* is difficult to establish; and derivation from *chitrapata* found in an eleventh-century text is unlikely; the latter may merely mean colour-patterned cloth.[59] Moti Chandra, however, locates some earlier possible occurrences of forms of *chhāpa*: Rājimati, a *chhimpika* (calico-printer?) of Āshāpalli (Ahmadabad) in a text of the fourteenth century, and *chhīpā* (calico-printer?) in one dated 1455. Then, some time before the mid-sixteenth century, we have *chīppa-kā-sārī* in Jāyasī's *Padmāvat*.[60] There can be no finality here, but the likelihood is that cloth-printing became an established craft only by the fourteenth century. Whether the idea to print cloth through dye-stamps was influenced by the parallel diffusion of the practice of ink-stamp seals put on official paper by the Mongols (borrowing the practice from the Chinese) remains to be investigated.[61]

Whether in dyeing, or in the case of calicoes, in bleaching, the cruciality of indigo as an agent must be remembered. We have suggested (Chapter 6) that the masonry vats with water-proof mortar must have greatly improved indigo-extraction. In the *Futūḥat-i Fīrozshāhī*, the *nīlgar* (indigo-maker or dyer) appears as a town craftsman on whom an occupational tax was previously levied, but was now abolished.[62] Indigo must have become plentiful by improvements in its process of production, and one can legitimately suppose that the production of dyed and printed cloth, as well as of calicoes, benefited from its plenitude.

In the final stage came needle-work, needed for both embroidery and tailoring. Altekar presented much evidence to show that sewn cloth was known and in use in ancient India.[63] It is not, perhaps, the question of the presence of stitched cloth, but the extent of its use. In

the 1290s Marco Polo reported that 'in all this Province of Malabar there is never a Tailor, to cut a coat or stitch'.[64] About 500 years later in a part of Bengal, Buchanan saw little stitched clothing in use, and thought the needle was 'totally unknown to the Hindus'.[65] From his study of references to clothing in sources of the five centuries preceding the Delhi Sultanate, Moti Chandra concluded that 'jackets, tunics and trousers' could have become more common in the twelfth century, owing to 'greater contact with the Arabs and Persians'.[66] While cloth-dyeing is referred to in texts like the *Harshacharita*, there seems to be no reference to needle-embroidery. On the other hand, in 1301–02 Amīr Khusrau spoke of the needle and the spindle as the woman's spear and arrow, suggesting that she was expected to be constantly occupied with either of them.[67] The *Miftāhu'l Fuẓalā* (1469) describes the *bādāma* as a robe on which three-cornered and four-cornered pieces of cloth (*parkāla*) were stitched for decoration.[68] Other needle-wielders included the cap-stitchers and stocking-stitchers, of whose skill in 'Alā'uddīn Khaljī's time Baranī speaks so highly.[69]

Our sources mention varieties of cloth, of cotton and silk, not all of which can be satisfactorily described or identified. *Pat* was the name of a coarse cotton cloth, worn by the poor and dervishes. The merchant who brought it from Awadh to Delhi refused to bring finer (*mahīn*) varieties because, he said, they would be worn only 'by the Turks and the army people.'[70] Another coarse kind of cloth was called *karpās*, the thinner variety priced at 20 *gaz* to the *tanka* and the thicker at 40 *gaz*, and thus being the cheapest piece of cloth in the time of 'Alā'u'ddīn Khaljī.[71] Amīr Khusrau also speaks as if *karpās* was the meanest of cloth and the silk *ḥarīrī*, the most expensive.[72] That *karpās* was white appears from a late lexicographic work.[73] If the *Makātibāt-i Rashīdī* or letters of the Il-khānid vizier Rashīdu'ddīn had been a genuine work, one would have wondered why 4,000 pieces of so lowly a cloth (described as *karpās-i Kanbāyatī*, of Cambay) from 'Hindostān' should have appeared in a list of pieces of apparel (*malbūsāt*) in the vizier's establishment.[74]

Bard was another kind of low-priced cotton cloth. According to the first version of Barani's history, a finer variety of it came from Lakhnauti (Bengal).[75] The *Makātibāt-i Rashīdī*, again, surprises us by including pieces of this common fabric (*abrād*, plural of *bard*), allegedly, again, of Cambay manufacture (*Kanbāyatī*), among the gifts of precious articles (*aqmasha*) sent by 'Alā'u'ddīn Khaljī to Rashīdu'ddīn.[76] Another low-priced cloth was the lining-cloth (*astar*), the coarser quality of which was priced well above *bard*; and the one produced at Nagaur (Rajasthan) fetched half a *ṭanka* per *gaz*.[77]

Ṭhakkura Pherū mentions three varieties of 'fine' cotton (?) cloth, *kara, vāsaka* and *taṇa*,[78] but these cannot be identified with any of the kinds mentioned in our other sources. There we have three finer qualities of cotton cloth mentioned: *salāhatī*, *shīrīnbāft* and *shānabāf*. All three are mentioned by Ibn Baṭṭūṭa among the gifts accompanying Muḥammad Tughluq's projected embassy to China.[79] The first two are given relatively high prices in the list of prices quoted by Baranī for Alā'uddīn Khaljī's time, the *salāhatī* fetching six *ṭanka*s, and the finest *shīrīn bāft* five *ṭanka*s, while the inferior of both varieties went for two *ṭanka*s a *gaz*.[80] Baranī does not record *shāna bāf*, but the *Siyaru'l Auliyā'*, written in the late fourteenth century, mentions it as 'a fine cloth', offered in gift.[81] In the first part of the fifteenth century, Ma Huan counts it among the products of Bengal, describing it ('sha-na-pa-fu') as a 'cotton crepe'. It must have been very fine and gauze-like, or, in other words, transparent muslin.[82] Barbosa (1516) mentions it as 'sinabafa', 'the best of all' textiles

produced in Bengal.[83] Another textile product of Bengal that Ma Huan describes is *chautār* ('sha-t'a-erh'), 'a good triple-thread cotton cloth'.[84] Barbosa too mentions it among the finer varieties of Bengal cloth, fetching high prices elsewhere.[85] It is an expensive item in the list of cotton textiles in the *Ā'īn-i Akbarī*, and is described as a product of Bengal in the *Haft Iqlīm* (*c.* 1600).[86] Does the name mean that the fabric was woven by alternating sets of four warp and weft threads?

Among the most valued varieties of cotton cloth was the *bhairam* (Hindī, *bhairaun*).[87] Ibn Baṭṭuṭa singles out the '*bairamiya*' for special praise among the articles accompanying Delhi's embassy to China; he describes it as 'made of cotton, with no equal in beauty, every piece worth a hundred *dīnār*s (*ṭanka*s)'.[88] Baranī does not give its price under Alā'uddīn Khaljī, but classes it among those high-value textiles, along with Devagīrī (muslin?) and silk fabrics, which common people were not expected to buy.[89]

A variety of silk fabrics were available to the aristocratic consumer. Ṭhakkura Pheru, *c.* 1310, lists four varieties of silk cloth, *juja, paṭṭolaya*, *atalasa* and *sāra*.[90] Of these, *juja* is obviously *juz*, to be distinguished from another silk fabric *khaz*, though with dots so close that one can be read for another in Persian transcription.[91] *Juz/khaz* occurs in 'Iṣāmī among the precious articles obtained in booty and tribute.[92] That woven at Delhi is given the highest price among textiles, sixteen *tanka*s (per *gaz*). The *juz/khaz* woven at Gola ('Goyla') in modern Rohilkhand, bore a much lower price (6 *ṭanka*s).[93]

We have already discussed *paṭola*, the silk fabric woven by pre-dyeing warp and weft. The next variety *atalasa* is obviously *aṭlas*, which finds mention in the *Ā'īn-i Akbarī* as the 'ordinary *aṭlas*' under 'silk fabrics', with a relatively moderate price.[94] *Aṭlas*, like satin, obtained a glossy surface by a tight weave with the weft yarns forming bands over the upper surface.[95]

Sāra of Ṭhakkura Pherū must be the *sha'r* of Amīr Khusrau, an expensive material counterposed to *galīm*, the coarse woollen blanket.[96] *Sha'r* later on seems to mean just a silk fabric.[97] It could also be *shāra*, the Indian ('Hinduvi') turban-cloth in the verses of Firdausi (early eleventh century).[98] Baranī gives the price of 'the legally permitted fine *sha'r*' under 'Alā'u'ddīn Khaljī as three *tanka*s (per *gaz*), much below that of *juz*.[99] The reference to its being legally authorized suggests that here silk was mixed with cotton fibre, pure silk fabric being held to be a forbidden apparel for Muslims.

The other silk fabrics that Baranī mentions among those in use among the aristocracy were the *kamkhāb* and *ḥarīrī*, besides 'Chīnī', which should mean Chinese silk.[100] The early fourteenth-century dictionary by Qawwās defines *kamkhā* (so spelt) as '*juz* of one colour, bearing embroidery (*naqsh basta*)'.[101] This woven embroidery could be of silk or gold or silver wire, but *kamkhwāb* is essentially a silk fabric and is listed as such in the *Ā'īn-i Akbarī*.[102] Baranī, in fact, speaks of an apparently highly valued variety *kamkhāb-i shash-tarī*. If *kamkhāb-i shash-tarī* here is a shortening of *tārī*, it might mean that up to six yarns or wires (*tār*) were used in the loom-embroidery to produce this class of *kamkhāb*.

As for *ḥarīr*, mentioned by Baranī, we may remember that Amīr Khusrau puts it as the most expensive of fabrics, counterposing it to *karpās*.[103] The *Miftāḥu'l Fuẓalā* (1469) says that *ḥarīr* is the Arabic name for the silk fabric known as *dībā* in Persian.[104] The *Ā'īn-i Akbarī* records two varieties of *dībā*, one from Europe ('Farang') and the other from Yazd (Iran), both listed under 'Gold-threaded cloth' (*zarrīn*).[105]

Such gold-threaded cloth was naturally the most expensive. Its usual name was *zarbaft*, which the *Miftāhu'l Fuzalā* defines as 'woven cloth that is woven with gold-thread and silk yarn mixed; it is also called *zarbāft*'.[106] Baranī puts 'varieties of *zarbaft* cloth' practically at the head of his list of those fabrics with which common people had nothing to do.[107] There is no doubt that such cloth obtained much better appearance and quality, once the draw-plate (described and figured in the *Miftāḥu'l Fuẓalā*)[108] enabled very thin gold and silver wire of uniform diameter to be produced and supplied to the weaver.

Since India did not produce mulberry silk until the fifteenth century (see Chapter 5), it is possible that some of the above silk fabrics were imported: indeed, Chinese ('Chīnī') cloth is mentioned among items that were too expensive for ordinary people to buy and so was reserved for the aristocracy by 'Alāu'ddīn Khaljī.[109] Yazd in Iran also manufactured 'a certain silk tissue known as Yasdi [Yazdī], which merchants carry into many quarters …'.[110] This was probably *ḥarīr* or *dībā*, which, as we have seen, was manufactured at that city. But Baranī distinctly gives the prices of *juz* manufactured at Delhi and Gola;[111] and it is possible that these were woven in India out of imported reeled silk and so bore high prices. However, some fabrics could have been made from wild or partly wild silks, like tasar and eri, collected within India. In Abū'l Faẓl's *Ā'īn-i Akbarī*, fabrics of both these silks are treated under the general category of silk fabrics (*abreshamī*).[112]

Cotton was the main fabric, then, in which India produced woven stuffs. Almost every part of India wove the fabric for ordinary use. It is only rare, however, as in the case of *pat* woven at Awadh (Ayodhya), that trade in coarse cloth is mentioned.[113] Our sources generally refer to more expensive products that entered long-distance trade. And this may be borne in mind when we turn to these sources for indications of regions especially known for their textile production.

Zao Rugua (Chao Ju-Kua), around 1225, speaks of '*tou-lu* [fine?] cotton stuffs and common cotton cloth' being produced in Bengal.[114] Ibn Baṭṭūṭa, while in Bengal (*c.* 1345), saw 'a piece of finest thin cotton cloth' being sold at the price of just two *tanka*s for a length of 30 yards.[115] Ma Huan (1433) mentions two very fine varieties of cotton cloth ('cotton crepe') as the products of Bengal, and also attests to the production of mulberry silk there.[116] Zao Rugua identified Malwa as a major producer of 'white cotton cloth', 2,000 oxen or more being used to carry it to other parts.[117] Gujarat, he says, produced 'cotton stuffs of every colour'.[118] In Marco Polo's account of Cambay ('Cambaet'), which he for some reason distinguished from Gujarat, it is stated that here was 'made much fine buckram', meaning, presumably, fine calico. Much cotton was also exported.[119] We have just seen that the fabricated correspondence of Rashidu'ddin, the Il-khanid vizier, mentions the *karpās* and *bard*, both varieties of low-priced cotton calico, as the products of Cambay ('Kanbāyat').[120]

In the Peninsula, Devagiri probably itself produced the *patola* silks which 'Alāu'ddin obtained in booty from it,[121] but the Devagiri cloth, mentioned by Baranī among high-value textiles, is likely to be a variety of fine muslin.[122] Marco Polo tells us that 'the best and most dedicate buckrams' were manufactured in coastal Andhra. His words ('in sooth, they look like tissue of spider's web') leave little doubt that he is speaking of muslin here.[123] Among the products of Tamilnadu ('Chu-lien'—the Chola country), Zao Rugua includes 'cotton stuffs with coloured silk threads and cotton stuffs'.[124] Finally, Malabar (Kerala) too manufactured 'very beautiful and dedicate buckrams', or fine calico—a piece of information we owe to Marco Polo.[125]

BUILDING INDUSTRY

A radical change in the mode of building construction becomes visible in the archaeological record of northern India in the thirteenth century. There were changes in the materials used and in the techniques of construction, and a manifestly great expansion of the building industry.

The materials that were now more extensively used than ever before were fired bricks and rubble, their employment in complex constructions becoming possible owing to the use of lime and gypsum as mortars. These two minerals act differently: the lime mortar hardens slowly and acts chemically on bricks to bind them together; gypsum hardens rapidly and holds stone or brick together by its own solidity.[126] Lime (Sanskrit: *churṇa*) is used in betel leaf and P.K. Gode found a reference to such use in the *Bihatsaṁhita* of Varahamihira (around AD 500).[127] However, its use as mortar in ancient Indian building work was extremely rare. The mortar used in a wall in Besnagar, *c.* 200 BC, contained lime to the extent of about 14 per cent only, and so was rather weak in its cementing effect.[128] At a *stupa* datable to the first century AD or so at Nongarh in Bihar, Beglar found 'a thick coat of soorky and lime-plaster' ('soorky' being a combination of pulverized brick mixed with lime and water).[129] Cunningham found 'well-formed heads of surki cement' in sculptured rocks near Monghyr in Bihar that he dated to the third century AD.[130] But thereafter, even such rare use of lime-mortar seems to have disappeared from India.[131] Mud mortar ordinarily sufficed for bricks while for stones iron clamps were used, as at Mandor (Marwar) in the period between the seventh and the tenth century.[132] As for gypsum, it was in use as mortar in the Indus cities in the third millennium BC, but appears to have been totally forgotten thereafter.[133]

The medieval use of lime and gypsum mortars was eminently due to the combination of building methods derived from Byzantuim and Sasanid Iran under the Arab caliphates. While lime, both as mortar and as plaster, was in use in the Roman Empire and Byzantium, Sasanid Iran exclusively used gypsum. The Arabs, as a consequence of their conquests of much of Byzantium and the whole of Iran in the seventh century, began to use both these mortars in their buildings. At Manṣūra in Sind, founded after the Arab conquest, excavators found below ground level a basement 'built of brick and white lime mortar'; and gypsum, along with lime, has also been found there at the upper levels of construction.[134] By the time the Sultanate was established early in the thirteenth century, both lime and gypsum as mortars had become inseparable from building construction under the Indo-Muslim aegis. Yet the practice still did not take root in areas where earlier building practices prevailed. As late as the 1530s, Fernão Nuniz noted that in Vijayanagara, lime was not employed in building construction.[135]

The new cementing elements were a necessary appendage to the new techniques of construction, which may be conveniently designated 'arcuate'. Construction in ancient or pre-Sultanate India was almost exclusively trabeate, based on beams resting on pillars or corbelled stones and bricks. As Cunningham noted in his report on the Bhitargaon temple, there were examples in earlier Buddhist and Hindu constructions of a true arch, but with the voussiors 'invariably placed end to end, instead of face to face', and thus forming separate thin arched rings instead of a thick firm arch.[136] In the absence of any mortar stronger than mud (Cunningham notes that this alone was used at Bhitargaon)[137] and the intrinsic weakness in the manner of laying the bricks to form the arch, it is not surprising that such arches could neither achieve any great size nor successfully bear weights.

The arcuate mode of construction that India received in the thirteenth century was a fusion not only of two types of mortars, but also of the two distinct styles, the Byzantine and the Sasanid, brought about under the umbrella of Islam. The early Byzantine preference for the pointed arch and dome on drum and pendentives was combined with the Sasanid emphasis on the barrel vault and dome on squinches.[138] By the thirteenth century, all these had become parts of the 'Saracenic' architectural system, now imported into India.

In his pioneering work on the history of Indian architecture, Fergusson noted in 1876 how it took time for the new arcuate techniques to be adopted in actual construction. Indian artisans called upon to build pointed arches and domes tried initially to achieve them by applying the corbelling techniques with which they were familiar, as in the Qutb mosque at Delhi, and this naturally resulted in the structures being 'seriously crippled'.[139] In the course of the century, however, the arcuate techniques were learnt, so that Indian masons began to erect arches, vaults and domes, successfully negotiating the structural thrusts encountered without recourse to the heavy substructures that trabeate construction required. As a result bricks, rubble and smaller stone blocks could serve, where hitherto large stone blocks alone had been found necessary, for structural safety in all attempts to build on scale. Expenses of construction were naturally reduced, and by the beginning of the fourteenth century one finds at Delhi and other cities of the Sultanate evidence of a dramatic expansion of building activity.[140]

The scale achieved in royal construction alone may be judged from the words in which Baranī describes the building work carried on under 'Alā'uddīn Khaljī (1296–1316):

> The wonderful numbers of buildings constructed and the erection of mosques, towers and forts, and the excavation of tanks that were witnessed in 'Alā'uddīn Khaljī's reign have not been seen, and will not be seen, under any ruler. Some 70,000 building workers were employed in 'Alā'uddīn Khaljī's works department so that in two or three days a palace would come up, and in two weeks, a fort.[141]

The rulers of the next dynasty, the Tughluqs, proved to be equally relentless builders, with Muḥammad Tughluq building Tughluqābād, a new city within Delhi. Fīroz Tughluq (1351–88) possibly outdid 'Alā'uddīn Khaljī in the scale of building activity. He had the largest building establishment of all rulers yet, employing numbers of 'stone-cutters, wood-cutters, ironsmiths, carpenters, sawyers, lime-burners, masons, etc., each under a supervisor'.[142]

Side by side with such extensive royal construction, there was much building undertaken by the aristocracy and its dependants in the form of palaces, tombs, mosques, shrines, and other civilian buildings. We are told that it was customary for merchants of Delhi to build houses of two storeys, the ground one being used for shop and business, the upper one reserved for the women (*ḥaram*).[143] Such double-storeyed houses could only have been built of brick or stone, and it is likely that the floor for the upper storey was provided by a combination of beams and vaults. Undoubtedly ordinary people in towns lived in mud huts with thatched roofs, but there could still have occurred much extension of brick and stone construction in 'middle-class' housing in cities.

It is not possible to speak in terms of numbers when we consider the employment offered by building construction. Extant inscriptions and scrawls in Sanskrit and Nagari found in surviving structures suggest that a large number of the artisans and masons came from

amongst local men, who in time learnt the new techniques.[144] Some occupations could still have been practically new ones, such as that of lime-burners mentioned by ʻAfīf in the passage quoted above.[145] It is of some interest that the persons (men and women) pounding and sieving lime and gypsum to prepare mortars, depicted in the *Akbarnāma* painting of building operations at Fatehpur Sikri, are Muslims.[146]

There do not seem to have been any labour-saving devices introduced in building work. The one possible exception seems to be capstan, the use of which is found in both the *Sīrat-i Fīrozshāhī* and ʻAfīf's *Tārīkh-i Fīrozshāhī* and referred to (the former even diagrammatically evidencing it) in their accounts of the transport of Ashoka's Shiwalak (Topra) pillar from its original site to Delhi and its installation there at Firozshah Kotla in 1367. From the diagrams, it would appear that each capstan had four arms by which it was rotated to draw in the rope thrown in a loop round the pillar.[147] This is the first explicit evidence of the use of the capstan in India, although the actual extent of its employment in other Sultanate building work cannot be established.

While labour-saving devices were few, there should be little doubt that the expanding sweep of building construction created or enlarged side-industries. There must now have been far more numerous brick kilns, for instance. When Baranī says that Fīroz Tughluq confirmed the grants of 'townships, villages, gardens and *bhaṭṭīs*' already held by nobles, the word *bhaṭṭī* here is unlikely to mean stills of any kind, and must refer rather to the land reserved for providing earth to brick kilns, which in Hindustānī are still referred to by the same word, *bhaṭṭī*.[148]

The increasing use of red sandstone in Delhi architecture depended on extensive quarrying in the neighbouring spurs of the Aravallis; but the marble in the fourteenth-century Delhi buildings could only have come from the more distant mines in Rajasthan.

PAPER MANUFACTURE

A new, important craft that was now introduced was the manufacture of paper, which was bound to affect many branches of economic and social life. The making of paper from hemp pulp goes back in China to some date before the birth of Christ. By the fourth century AD, paper in China had replaced silk, bamboo and wood as the main material for writing; before the tenth century the fundamentals of paper manufacture, including the movable bamboo screen, mould and sizing had been perfected; and silk, bamboo, mulberry bark, and even wheat and barley stalks were now used for manufacturing paper.[149] It, however, took time before paper manufacture found its way out of China, despite its fairly early use in Xinjiang (western China) from the fourth century AD onwards.[150]

Arabic historical narratives date the introduction of paper in the Islamic world from the settlement at Samarkand (Uzbekistan) of Chinese prisoners captured at the battle of Talas (751).[151] After repeating this, Alberuni, writing at Lahore in *c.* 1035, tells us that in northern and central India in his time, people still used tree-bark as writing material while in south India, palm leaves served that purpose.[152] According to the chronology of the diffusion of paper summarized by Usher, paper manufacture reached Baghdad by 793 and Egypt by 900.[153] One would presume, then, that paper manufacture should have reached Arab-ruled Sind well before the eleventh century, and must have been established in Ghaznavid Panjab by Alberuni's time. From excavations at Manṣūra in Sind, which was destroyed *c.* 1030, paper pieces from

as many as seven sets of burnt Arabic manuscripts have been collected.[154] One would not, therefore, be surprised at a *Śatapatha Brāhmaṇa* manuscript having been copied on paper in Kashmir in 1089. A date of 1223–24 or even 1180 for Sanskrit manuscripts beginning to be written on paper in Gujarat should be what one would expect from that region's close proximity to Sind and the presence of Muslim mercantile communities in its ports.[155] Suggestions of still earlier use of paper in India, based on Chinese lexicons of Sanskrit, for example that of Yi Jing (I-tsing) in the eighth century, which offer the Sanskrit words *kākali* or *śaya* for paper,[156] are not, however, persuasive, since Chinese scholars using paper would naturally create Sanskrit words for it, though these did not occur in the Sanskrit texts themselves.

With the establishment of the Sultanate, paper manufacture arrived at Delhi. Amīr Khusrau in 1289 mentions paper-making as a contemporary craft;[157] and in a verse he alludes to the glazing of paper with a rubber or *muhra*.[158] In 1452 Ma Huan in his account of the products of Bengal spoke of 'a kind of white paper which is also made from tree bark', praising it for being 'glossy and smooth like a deer skin'.[159] If Ma Huan is right in saying that tree bark was the material used here, the process necessary for this might well have been learnt directly from China, rather than from Central and West Asia where fibrous rag continued to serve as the raw material for paper.

By the fourteenth century, paper seems to have become fairly abundant in Delhi. This is shown by the *Khairu'l Majālis* (1354) where, in an anecdote of Shaikh Niẓāmuddīn's (d. 1325) time, it is related how a scholar retrieved the paper of his *farmān* of grant from a confectioner (*ḥalwāī*), who was on the point of tearing it into parts to serve as wrappers for the sweet flour (*ḥalwa*) he was selling.[160] Clearly, then, used paper had become sufficiently plentiful to be used as packing material.

And yet it took time before paper could establish itself in some regions of India. It was apparently still not in use in the Vijayanagara Empire in the first half of the fifteenth century.[161] Even by the end of the sixteenth century, palm leaf and iron stilus still remained the normal writing material and penning instrument in Orissa and Kerala.[162]

Paper immensely cheapened the writing material and therefore gave an impetus to book sale and circulation, quickening thereby the process of transmission of knowledge. Record-keeping and accountancy were also made so much easier, and the circulation of commercial paper, like bills of exchange (*safta, hunḍī*), should also have been greatly aided by its use. For every civilization that received it, the arrival of paper proved to be a momentous event, and India could hardly have remained an exception.

GLASSWARE

Beads and bracelets of coarse coloured translucent glass have been traced by archaeologists in northern India to the painted greyware culture around 500 BC or even earlier.[163] While the use of the coarser coloured varieties of glass for small receptacles is evidenced by artefacts from subsequent cultures, Gode found references to such receptacles in Sanskrit texts only in rather late times, that is, from the eleventh century onwards.[164]

A new element was brought into glassware production in Iran and India by the twelfth century, namely enamelling. Enamelled glasses of high quality were produced in Syria in the twelfth to fourteenth centuries, preceded by 'lustred' glass bowls in Egypt in the tenth century

and earlier.[165] In Manṣūra in Sind (destroyed, *c.* 1030) was found 'a dainty little bowl of blue-glass … overlaid with white or cream enamel', the first known product of the craft in India, if it was not simply an import.[166]

We find a reference to a more mundane glass-based industry in the conversations of Shaikh Niẓāmuddīn (1319), where we are told of a *ṣūfī* of Kasrak (in present-day Rohilkhand) who was a trinket-seller (*furoza-farosh*), hawking *bangrī* or bracelets 'which women wear'.[167] The manufacture of 'bangri' (called 'ballay' in Kannada), 'worn round the wrists of the native women', was observed in 1801 by Buchanan, who recorded a detailed account of its manufacture. The material out of which the 'rings' were made was glass, but 'very coarse and opaque'.[168] It is not very clear if the process of manufacture of these glass wrist-rings was any different in Sultanate times from what it was earlier—or from what Buchanan witnessed in south India in 1801.

It seems that a better quality of glass also began to be produced. The *Mirā'tu'l Fuẓulā* (1468–69) describes a *tābkhāna* as 'a house, in whose walls pieces of glass (*shīsha-bandī*) are fixed, so that whatever is outside the house can be seen from inside, and sun-light can come into the house, as well as warmth'.[169] This would not, of course, be possible without transparent glass. But the pieces of such glass must have been small: Indian furnaces never attained temperatures at which large glass panes could be produced.[170] Nor could they produce glass mirrors of any size: even in Mughal times steel mirrors were in vogue.[171]

GLAZED WARE

With regard to the number of persons employed, pottery-making was an industry which could well have competed with, or even surpassed, textile crafts. Its relative importance could decline with the increasing use of metal; but it would be difficult to argue that such a stage had arrived by the time of the Sultanate, or even the Mughal Empire.[172] What was added to the potter's craft in the Sultanate was the making of special kinds of glazed ware. This technique spread from the Eastern Mediterranean almost simultaneously with the expansion of Islam. The ware is described as being covered by 'a clear silicious glaze, sometimes rendered opaque, by an underlying slip or by an admixture of tin, which produces a milky white surface'. Finely ground and strongly fired, it could even resemble 'an artificial porcelain'.[173] Cousens reported the finds of blue, green and white glazed ware from Mansura, which would place their manufacture in Sind in the tenth century or earlier.[174] Finds of such pottery have also been recorded in a report of further excavations at the same site.[175] Glazed ware thereafter becomes, in other parts of the country, a recognized marker for post-twelfth century levels at archaeological sites. The appearance and then the abundance of glazed ware has been particularly noted, for example, in the Lalkot excavations at Delhi, where the Sultanate phase directly follows upon the pre-Sultanate phase. Glazed tiles at this site are reported from the Sultanate phase alone.[176]

SOAP MANUFACTURE

While tracing the history of soap-making, P.K. Gode noted that the evidence from ancient Indian texts suggests that the materials employed for cleansing purposes were then confined

to froth-producing plants (*phenak*) such as soap-nuts, and that the use of saline earth and animal fat to produce soap came in medieval times along with the Arabic word *ṣābūn*, from Latin *sapo*.[177] Already in Fīroz Tughluq's time, soap-making (*ṣābūn-garī)* was one of the important professions on which the tax imposed at the time was remitted.[178] It is therefore likely that a new craft, which enabled cloth to be washed more cheaply and rapidly, had now been established.

NOTES AND REFERENCES

1. Marco Polo, *Ser Marco Polo*, II, pp. 331–32 (pearl fishery) and pp. 359–61 (diamonds).
2. Major, *India in the Fifteenth Century*; Nikitin, pp. 21, 31. Kurnool, not far from Raichur, stands on the Tungabhadra, a little ahead of its junction with the Krishna. There were diamond mines close by in Mughal times (see Habib, *Atlas of the Mughal Empire*, Sheet 16B, Notes, p. 67, col. a). Nikitin (p. 31) makes an apparent slip when he uses the word 'akhik', presumably a corruption of '*aqīq*, for diamond; *'aqīq* actually mean agate and cornelian.
3. Major, *India in the Fifteenth Century*; Conti, pp. 5–6 ('sardonyx'); Nikitin, p. 21.
4. Marco Polo, *Ser Marco Polo*, II, pp. 331–32.
5. Ibn Baṭṭūṭa, *Riḥla*, p. 594, tr. Husain, p. 218.
6. Major, *India in the Fifteenth* Century; Conti, p. 7.
7. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, 2:7, 8.
8. See, for example, 'Afif, *Tārīkh-i Fīrozshāhī*, p. 125, on the supply of stone and lime for the fort of Hiṣār Fīroza (Haryana).
9. *Indian Archaeology, 1983–84: A Review*, Delhi, p. 77; J. Ambers and S. Browman (with comments by P.T. Craddock) in *Radiocarbon*, 31(1), (1989), p. 25, and 38 (1), 1994, p. 109.
10. As in India, so in Europe, zinc, before its isolation by distillation, was a by-product of the smelting of silver and lead ores (F.W. Gibbs in Singer et al., *History of Technology*, III, pp. 691–92). Zinc is found, along with lead, in high percentages in Umayyid silver coins before 715, for a similar reason (Ziād al-Sa'd in *JESHO*, 42 (3), August, 1999, p. 361).
11. Cf. P.T. Craddock's comments in *Radiocarbon*, 31(1), 1989, p. 25, and 38(1), (1996), p. 109.
12. Vijaya Deshpande would, on this basis, take zinc isolation to the fifth century BC, while yet accepting the argument that the large percentage of zinc in certain Chinese coins was due only to the additional smelting of brass with calamine! (*Indian Journal of History of Science*, 31[3], 1996, pp. 276–77). Archaeological evidence for zinc and brass in India is discussed by J.S. Kharakwal and L.K. Gurjar in Shinde et al, *Ancient Asia*, I , pp. 139–59, where the tendency towards early dating is much more restrained, though not, unluckily, absent. For the dating and description of retorts found at Zawar, see ibid., pp. 146–48.
13. Abu'l Faẓl, *Ā'īn-i Akbarī*, I, p. 35. 'Jāwar' (that is, Zāwar) almost certainly needs to be substituted for Jālor in the printed text. See, for further references to Zāwar mines, Habib, *Atlas of the Mughal Empire*, p. 20, col. b.
14. Cf. Coomaraswamy, *Arts and Crafts of India and Ceylon*, p. 140.
15. See Gode, *Indian Cultural History*, III(2), pp. 113–17. The tinning (*qala'ī*) of copper vessels in the imperial kitchens is mentioned in Abū'l Faẓl's *Ā'īn-i Akbarī*, I, p. 55. Among Sanskrit texts, the earliest reference Gode was able to locate was in the *Rājadharmakośa* of *c*. 1676.
16. The earliest example of deliberately made steel comes from the piece of a broken sword, put under the base of Heliodorus's column at Besnagar, near Sanchi in M.P., datable to the second century BC (Archaeological Survey of India [ASI, hereafter]), *Annual Report*, 1913–14, pp. 202–04; see also Marshall, *Taxila* , II, pp. 534–35.)
17. Fakhr-i Mudabbir, *Ādābu'l Ḥarb wu'sh Shujā'at*, pp. 258–60

18. See Wulff, *Traditional Crafts of Persia*, pp. 8–10, for the manufacture of both 'laminated' and 'crucible' forms of damascene steel. The crucible form is identical with 'wootz'.
19. The Ghaznavid poet Mas'ūd Sa'd Salmān says in a verse, quoted in the *Bahār-i 'Ajam*, s.v. *āhan*, that while horseshoes are made of iron dross, the king's swords are made of *rohnā* (a kind of Indian damascene steel, mentioned by Mudabbir, *Ādābu'l Ḥarb wu'sh Shujā'at*,)
20. For Europe, see Forbes in Singer, et al., eds, *History of Technology*, II, p.75; Khāqānī's verse is quoted in Injū, *Farhang-i Jahāngīrī*, II, p. 512 (s.v. *shafshāhanj*).
21. Shādīābādī, *Miftāḥu'l Fuẓalā*, Br. Lib., Or. 3299, f.190 a-b.
22. Shādīābādī, *Miftāḥu'l Fuẓalā,*f. 128 a-b (*dama*).
23. Gode, *Indian Cultural History*, II, pp. 74–75; White, *Medieval Technology*, pp. 14–15.
24. See, for Gupta coins, A.S. Altekar, *Catalogue of the Gupta Gold Coins in the Bayana Hoard*, esp. Plates XIII–XV, XXII–XXV. On Ajanta paintings, see H. Goetz's observation, quoted in Gode, *Indian Cultural History*, II, p. 76. There are no stirrups on a Kanauj sculpture of the ninth century (C. Swaramamurti, *Indian Sculpture*, Plate 34), nor are there any in the Mandor (Marwar) frieze of a rider and horse, dated to the twelfth century (ASI, *Annual Report*, *1909–10*, Plate XLIV[a]).
25. See textual description in Prakash, *Khajuraho*, pp. 88–89, and photo nos 40, 41, 44, 46, 47, 49.
26. Deloche, *Military Technology*, p. 31.
27. Shihābuddīn 'Abdullāh 'Waṣṣāf', *Tārīkh-i Waṣṣāf*, calligraphed by Muhammad Ibrahim Aqa, litho., III, p. 302.
28. See the textual, visual and archaeological evidence brought together by Kennedy, *Armies of the Caliphs*, pp. 171–73.
29. Since the iron stirrup alone had the necessary strength to bear the weight of the rider, to enable him to mount the horse by putting his foot into it, *rikāb* came also to mean mounting, as in Amīr Khusrau's *I'jāz-i Khusrawī* (written in 1283–84), I, p. 167; and thence of undertaking an expedition, as in the same poet's *Nuh Sipihr* (written in 1283–84), p. 58.
30. Gode, *Indian Cultural History*, II, p. 72.
31. Deloche, *Military Technology*, p. 31.
32. White, *Medieval Technology*, pp. 58–59.
33. Quoted in Tek Chand 'Bahār', *Bahār-i 'Ajam*, I, p. 43 (s.v. *āhan*) and II, p. 453 (s.v. *na'l*).
34. Mudabbir, *Ādābu'l Ḥarbu'sh Shujā'at*, p. 220.
35. Khusrau, *I'jāz-i Khusrawī*, I, p. 171.
36. Marco Polo, *Ser Marco Polo*, II, pp. 340, 350.
37. Deloche, *Military Technology*, p. 31.
38. Shādiābādī, *Miftāḥu'l Fuẓala,* f.128a-b (s.v. *dama*).
39. Woven cotton cloth has been found in India from the levels of Mohenjo Daro datable to *c.* 2000 BC or earlier. The closely woven warp and weft threads (respectively, 20 per inch and 60 per inch) are hard to imagine except as products of work on a loom-frame (Marshall, *Mohenjo Daro and the Indus Civilization*, II, pp. 585–86).
40. White, *Medieval Technology*, p. 117; Gao Hanyu and Shi Bokui, 'The Spinning Wheel and the Loom', in Mao Yisheng*, Ancient China*, pp. 510–11.
41. Forbes, *Studies in Ancient Technology*, IV, p. 215; White, *Medieval Technology*, p. 117.
42. Al-Hassan and Hill, *Islamic Technology*, p. 187.
43. Citation in Injū, *Farhang-i Jahāngīrī*, p. 109 (s.v. *pāchāl*)
44. Shādīābādī, *Miftāḥu'l Fuẓalā*, f.262a.
45. Cf. Hanyu and Bokui, 'The Spinning Wheel and the Loom', p. 511.
46. For a larger availability of 'common cloth' and 'a vast increase in the consumption of linen' in fourteenth-century Europe as a result of the introduction of the same two inventions there, see Lynn White Jr, in Cipolla, *Middle Ages*, pp. 160–61.
47. Pherū, *Gaṇitasāra*, 2.4.2: 4.18, p. 98
48. Baranī, *Tarīkh-i Fīrozshāhī*, p. 223. See on the *paṭola* or '*ikat*' mode of weave, John Irwin, 'Textiles' in Ashton, *Art of India and Pakistan*, pp. 208–09.

49. Ibid, p. 205 and *n*.
50. See the detailed description of shawl-weaving as practised in Kashmir in 1822 in Moorcroft and Trebeck, *Travels*, II, pp. 178–82. For a seventeenth-century reference to shawl embroidery made on the loom in Kashmir, see Bernier, *Travels*, pp. 402–03.
51. See Steven Cohen's review of Ruth Barnes, *Indian Block-printed Textiles in Egypt*, 2 vols, Oxford, (n.d.), in *BSOAS*, 61(3), 1998, pp. 573–74.
52. Stein, *Ancient Khotan*, pp. 429–30, 442.
53. V.S. Agarwala, 'References to Textiles in Bana's *Harshacharita*', *Journal of Indian Textile History*, IV, p. 66.
54. Specimens have been found at Atranjikhera (western UP) dated to Mauryan times (Gaur, *Excavations at Atranjikhera*, pp. 213, 244, 380) and Taxila from 'Saka-Parthian' times (Marshall, *Taxila*, p. 21, and II, pp. 437–38). An ' earthenware' (not stone) block was found in the Bannu district, NWFP, dated on unknown grounds to the period before the fifth century (Coomaraswamy, *Arts and Crafts*, p. 201).
55. Irwin, 'Textiles', pp. 203–04.
56. Phyllis Ackerman in Pope and Ackerman, *Persian Art*, V, pp. 2154–56.
57. 'Bahār', *Bahār-i 'Ajam*, s.v. *chīt, chītsāz, chītgar*, where the two poets are quoted.
58. Ibid., s.v. *qālib*, *gulkāma*. See also Yule and Burnell, *Hobson-Jobson*, pp. 207–09 (s.v. *chop*)
59. Cf. Moti Chandra, 'Indian Costumes and Textiles from 8th to the 12th Centuries', *Journal of Indian Textile History*, V, p. 27.
60. These references are from Moti Chandra, 'Costumes and Textiles in the Sultanate Period', *Journal of Indian Textile History*, VI, pp. 17, 40, 51–52.
61. If the extant official documents are any indication, the use of inked seals in India began only with Bābur (1526–30); but in Central Asia and Iran, they were in use much earlier.
62. Fīroz, *Futūhāt-i Fīrozshāhī*, p. 5. The same list (including the word *nīlgarī*) appears in the *Sīrat-i Firozshahī*, pp. 117–18. The latter work was compiled in 1370–71.
63. Altekar, *Position of Women*, pp. 291–97.
64. Marco Polo, *Ser Marco Polo*, II, p. 338.
65. Buchanan, in Montgomery Martin, *History, Antiquities, Topography and Statistics*, II, p. 699. The report on Dinajpur, from which the words are quoted, was prepared in 1808.
66. *Journal of Indian Textile History*, V, 1960, p. 22.
67. Khusrau, *Hasht Bihisht*, p. 29.
68. Shādībādī, *Miftāḥu'l Fuẓalā*, f.55a.
69. Baranī, *Tārīkh-i Fīrozhahī*, p. 365.
70. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 183. *Pat* could have derived from the Sanskrit term *paṭa*, meaning a piece of cloth, used for writing or painting, and therefore, one assumes, thick and unbleached. This word occurs in this sense in a Buddhist Sanskrit text, dated to as early as the second century AD (Gode, *Indian Cultural History*, III, p. 15).
71. Baranī, *Tārīkh-i Fīrozhahī*, p. 310.
72. Khusrau, *Khazā'inu'l Futūḥ*, 1953, p. 22.
73. 'Bahār', *Bahār-i 'Ajam*, s.v. *karpās*.
74. Rashīdu'ddin Faẓlullāh, *Makātibāt-i Rashīdī*, p. 190. A.H. Morton contests the genuineness of this work on fairly strong grounds ('The Letters of Rashīd al-Dīn' in Amitai-Preiss and Morgan, *Mongol Empire*, pp. 155–99).
75. Baranī, *Tārīkh-i Fīrozhahī,* f.144a: for 'six *tanka*s' as price given here, read 'six *jītal*s', the price actually given for the price of 'fine *bard*' in Baranī's final version, p. 310.
76. Rashīdu'ddin, *Makātibāt-i Rashīdī*, p. 282.
77. Baranī, *Tārīkh-i Fīrozhahī,* p. 310.
78. Pherū, *Gaṇitasāra*, 2.4.2:4:18, p. 98.
79. The '*ṣalāḥiya', 'shīrīnbāf*' and *'shānbāf*': Ibn Baṭṭūṭa, *Riḥla*, p. 531, tr. Husain, p. 151.
80. Baranī, *Tārīkh-i Fīrozhahī,* p. 310.
81. Amīr Khwurd, *Siyaru'l Auliyā*, p. 139.

82. Ma Huan, *Ying-yai Sheng-lan*, p. 162.
83. Barbosa, *Book of Duarte Barbosa*, II, p. 146.
84. Ma Huan, *Ying-yai Sheng-lan*, p. 163.
85. Barbosa, *Book of Duarte Barbosa*, 2:146–57.
86. Abū'l Faẓl, *Ā'īn-i Akbarī*, I, p. 108; Amīn Ahmad Rāzī, *Haft Iqlīm*, I, 1918–39, p. 96.
87. The Hindi spelling is established by the *Ā'īn-i Akbarī*, I, p. 108, through being set out textually.
88. Ibn Baṭṭūṭa, *Riḥla*, p. 531, tr. Husain, p. 151.
89. Baranī, *Tārīkh-i Fīrozhahī,* p. 311.
90. Pherū, *Gaṇitasāra*, 2.4.2: 4.18, p. 98.
91. Amīr Khusrau, *Khazā'inu'l Futūh*, p. 22, plays with this when he speaks of 'from *juz* to *khaz*, the shape of the sign for each recalls that for the other'. The editor (p. 200) is surely wrong in holding that *juz* was a woollen cloth, an assertion put to rest in any case by the mention of *juja* silk-cloth in Pherū, *Gaṇitasāra*.
92. 'Iṣāmī, *Futūḥu's Salāṭīn*, pp. 550, 567.
93. Baranī, *Tārīkh-i Fīrozhahī,* p. 310. Gola was, then, in the midst of a forest. Did its weavers weave *juz* out of a local wild or semi-wild silk, like tasar?
94. Abū'l Faẓl, *Ā'īn-i Akbarī*, I, p. 107, where it is priced at half to one rupee per *gaz*. The *Ā'īn-i Akbarī*, I, pp. 105–06, also enters Chinese *aṭlas* under *zarrīn* (gold and silver interwoven) fabrics (no price given), and the *aṭlas* of Herat under silk fabrics (price per piece: Rs 5 to two *muhr*s, one *muhr* being equal to Rs 9).
95. See Yusuf Ali, *A Monograph on Silk Fabrics*, quoted in Yule and Burnell, *Hobson-Jobson*, p. 39 (s.v. *atlas*).
96. Khusrau, *Khazā'inu'l Futūḥ*, p. 22.
97. 'Bahār', *Bahār-i 'Ajam*, s.v. *sha'r-bāf*.
98. Two verses of Firdausī quoted in Injū, *Farhang-i Jahangīrī*, I, p. 174 (s.v. *shāra*). Injū likens it to *chīra*, the Indian silken turban-cloth of his own day (early seventeenth century).
99. *Mashrū'-i sha'rī*; Baranī, *Tārīkh-i Fīrozhahī,* p. 310.
100. Ibid., p. 311.
101. Qawwās, *Farhang-i Qawwās*, p. 153.
102. Abū'l Faẓl, *Ā'īn-i Akbarī*, I, p. 107.
103. Khusrau, *Khazā'inu'l Futūḥ*, p. 22.
104. Shādīābādī, *Miftāḥu'l Fuẓalā*, f.115b.
105. Abū'l Faẓl, *Ā'īn-i Akbarī*, I, p. 105.
106. Shādīābādī, *Miftāḥu'l Fuẓalā*, f.142b (s.v. *zarbaft*)
107. Baranī, *Tārīkh-i Fīrozhahī,* p. 311.
108. Shādīābādī, *Miftāḥu'l Fuẓalā*, f.190a-b (s.v. *shafshāhang*).
109. Baranī, *Tārīkh-i Fīrozhahī,* p. 311.
110. Marco Polo, *Ser Marco Polo*, I, p. 88.
111. Baranī, *Tārīkh-i Fīrozhahī,* p. 310.
112. Abū'l Faẓl, *Ā'īn-i Akbarī*, I, p. 107: *ṭāṭband* (eri) of Puri and *ṭasar*, the former bearing a price much higher than the latter.
113. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 183.
114. Hirth and Rockhill, *Chau Ju Kua*, p. 97.
115. Baṭṭūṭa, *Riḥla*, p. 610, tr. Husain, p. 235.
116. Ma Huan, *Ying-yai Sheng-lan*, pp. 162–63.
117. Hirth and Rockhill, *Chau Ju Kua*, p. 93.
118. Ibid., p. 92.
119. Marco Polo, *Ser Marco Polo*, II, p. 398. On the meaning of buckram as used by Polo, see Yule's notes on the word in *Ser Marco Polo*,, I, pp. 47–48 and 62; and *Oxford English Dictionary* (*OED*), buckram.
120. Rashīdu'ddin, *Makātibāt-i Rashīdī*, pp. 190, 282.

121. Baranī, *Tārīkh-i Fīrozhahī,* p. 223.
122. Ibid., p. 311. It is likely that the *bhairon o Devagīrī* in the text was intended for *bhairon-i Devagīrī*, in which case what Devagīrī exported to Delhi was *bhairon* (for which see above).
123. Marco Polo, *Ser Marco Polo*, II, p. 361. This statement is made in Polo's account of the kingdom of Mutfili (Motapalle in Guntur district, Andhra Pradesh).
124. Hirth and Rockhill, *Chau Ju Kua*, p. 96.
125. Marco Polo, *Ser Marco Polo*, II, p. 389.
126. Cf. Oscar Reuther in Pope and Ackerman, *Persian Art*, I, pp. 427–28. Pure lime is calcium; gypsum is hydrous calcium sulphate. On being calcined, gypsum turns into Plaster of Paris (Watt, *The Commercial Products of India*, pp. 709, 716).
127. Gode, *Indian Cultural History*, I, p. 58.
128. D.R. Bhandarkar in *ASI Annual Report, 1913–14*, p. 206.
129. J.D. Beglar in Cunningham, *Archaeological Survey Reports*, VIII, pp. 118, 120.
130. Cunningham, *Archaeological Survey Reports*, XV, p. 27.
131. T.R. Gairola reports lime-wash on sculptures of the Paraśurāmeśvara temple (seventh-eighth century) and Mukteśvara temple (eighth century) at Bhuvanesvar, and lime-plaster on those of the Lingarāja temple (tenth century) ('to hide bad workmanship'), also at Bhuvanesvar (ASI, *Ancient India*, No. 6, 1950, pp. 104–07). But no use of lime as mortar for structural purposes is reported.
132. J.H.R. Marshall and Daya Ram Sahni in ASI, *Annual Report*, 1909–10, p. 95.
133. Marshall, *Mohenjo Daro*, I, pp. 132, 263, 268–69. Even *surkhī* ('lime mixed with brick-dust') was found at Mohenjo Daro, (p. 273).
134. Cousens, *Antiquities of Sind*, p. 58; and Khan, *Al-Mansurah*, pp. 29, 33, 38, 39.
135. 'Chronicle of Fernão Nuniz', tr. Sewell in his *Forgotten Empire*, p. 346.
136. Cunningham, *Archaeological Survey Reports*, XI, pp. 42–43, 143. See also J.D. Beglar in *Archaeological Survey Reports*, VIII, pp. 118–20, and Cousens in ASI, *Annual Report, 1909–10*, pp. 83–84, and *Antiquities of Sind*, p. 86. On the possible true arch in 'Kushana palace' at Kausambi, see K.V. Soundara Rajan in *Purātattva*, No. 11, 1979–80, pp. 96-99.
137. Cunningham, *Archaeological Survey Reports*, XI, pp. 40–41.
138. For these distinct traditions, see Pope and Ackerman, *Persian Art*, II, pp. 501–03; and III, pp. 901–02, 1252. Cf. Creswell, *Early Muslim Architecture*, pp. 103–05.
139. Fergusson, *History of Indian and Eastern Architecture*, II, pp. 203–04.
140. For Delhi, see the major survey of Sultanate buildings: T. Yamamoto, M. Ara and T. Tsukinowa, *Delhi: Architectural Remains of the Delhi Sultanate Period,* 3 vols. This splendid work (alas, still available only in Japanese) may be supplemented by Hasan, *Delhi Province*.
141. Baranī, *Tārīkh-i Firozshāhī*, p. 341.
142. 'Afīf, *Tārīkh-i Firozshāhī*, p. 331.
143. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 93.
144. Cf. Prasad, *Sanskrit Inscriptions*, pp. xxix–xxx.
145. 'Afīf, *Tārīkh-i Fīrozhahī*, p. 331. It is interesting that while 'Afīf uses the Hindi word *rāj* for mason, he employs the Hindi–Persian compound *chūna-paz* for the lime-burner.
146. See Sen, *Paintings from the Akbarnāma*, Plate 61, opp. 139.
147. *Sīrat-i Fīrozshāhī*, pp. 180–207 (text and diagrams); 'Afīf, *Tārīkh-i Fīrozhahī,* pp. 310–11.
148. Baranī, *Tārīkh-i Fīrozhahī,* p. 555.
149. Pan Jixing, 'The Invention and Development of Paper-making', in Mao Yisheng, *Ancient China*, pp. 176–83.
150. Stein, *Sand-buried Ruins of Khotan*, p. 404; Stein, *Ancient Khotan*, II, p. 369.
151. Cf. Laufer, *Sino-Iranica* p. 559. Laufer points out that the rag paper manufactured in Samarkand was not a local invention, but long produced earlier in China. On this see also Pan Jixing, 'Paper-making', in Mao Yisheng, *Ancient China*, p.183.
152. Sachau, *Alberuni's India*, p. 171.
153. Usher, *Mechanical Inventions*, p. 239.

154. Khan, *Al-Mansurah*, pp. 88–89.
155. Gode, *Indian Cultural History*, III(1), p. 7.
156. Sircar, *Indian Epigraphy*, p. 67; and Tsien Tsuen-Hsuin, *Paper and Printing*, being *Science and Civilisation in China*, ed. J. Needham, V(1), pp. 356–57.
157. Khusrau, *Qirānu's Sa'dain*, pp. 177, 228–30.
158. Quoted in 'Bahār', *Bahār-i 'Ajam*, s.v. *muhra-kash*.
159. Ma Huan, *Ying-yai Sheng*-lan, p. 163.
160. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 203.
161. See the descriptions of writing materials in Vijayanagara by 'Abdu'r Razzāq, *Maṭla'-i Sa'dain* (Major, *India in the Fifteenth Century*; Abd-er-Razzak, p. 25, and Elliot and Dowson, *History of India*, IV, pp. 107–08) and by Nicoló Conti (Major, *India in the Fifteenth Century*; Conti, p. 7).
162. Amīn Aḥmad Rāzī, *Haft Iqlīm*, I, p. 98 (Orissa); Pyrard de Laval, *Voyages*, I, p. 408 (Kerala).
163. See Gaur, *Excavations at Atranjikhera*, pp. 218, 490. It is somewhat strange that the very specimen which Gaur took to be a fragment of a bangle (p. 218) is taken by O.P. Agrawal, the chemist, to be a 'part of a bottle or some other receptacle' (p. 490). The latter described the material as 'a soda-lime soft glass'.
164. Gode, *Studies in Indian Cultural History*, III, pp. 82–95.
165. Singer et al., *History of Technology*, II, pp. 327–28.
166. Cousens, *Antiquities of Sind*, p. 53. For a list of glass objects recovered from further excavations at the same site, see Ahmad Nabi Khan, *Al-Mansurah*, pp. 92–93.
167. Sijzī, *Fawā'idu'l Fuwād*, pp. 361–62. '*Fīroza-farosh*' in the printed text is apparently a mistranscription of '*furoza-farosh*', *furoza* carrying the sense of shining things.
168. Buchanan, *Journey from Madras*, III, pp. 369–73.
169. Shādīābādī, *Miftāḥu'l Fuẓalā*, ff. 83b–84a. For such a house at Lahore in 1640–41, see Manrique, *Travels, 1629–43*, II, p. 208.
170. This explains Jahāngīr's wonderment at clearly transparent panes of glass, described as crystal, imported from Europe (*Tuzuk-i Jahāngīrī*, p.79).
171. On glass manufacture and the absence of glass mirrors in Iran in 1666–77, which would apply to India of that time as well, see Chardin's remarks in *Sir John Chardin's Travels in Persia*, II, pp. 272, 275. For steel mirrors in India, see Marshall, *Notes and Observations in Bengal, 1668–72*, p. 399.
172. Cf. Habib, *Agrarian System*, pp. 110–11.
173. R.L. Hobson, 'Ceramic Art in Islamic Times: (C) Techniques', in Pope and Ackerman, *Survey of Persian Art*, IV, p. 1699.
174. Cousens, *Antiquities of Sind*, p. 53.
175. Khan, *Al-Mansurah*, pp. 41, 62 (nos 1–2), 74–76 (nos 95–106).
176. B.R. Mani et al., 'Excavations at Lalkot and Anangtal, South New Delhi', in *Indian Archaeology, 1991–1992—A Review*, pp. 12, 14–15. On p. 12, Mani and his colleagues take the presence of some glazed pottery fragments in what they hold to be a Rajput phase, to suggest that 'this phase was much closer to the Turkish invasion of Delhi, as during the Muslim period its use was plentiful'.
177. Gode, *Indian Cultural History*, III, pp. 150–67. For a detailed description of soap manufacture in Awadh in 1849, see Sleeman, *Journey Through Oudh*, pp. 188, 191–93.
178. Fīroz, *Futūḥāt-i Fīrozshāhī*, pp. 5–6; *Sīrat-i Firozshāhī*, pp. 117–18.

CHAPTER 11

Forms of Labour

Irfan Habib

SLAVERY

Slave labour has an ancient history in India.[1] Four documents in the *Lekhapaddhati*, compiled in Chaulukya-ruled Gujarat, relate to the acquisition and conditions of work and life of female slaves. Three of the documents are dated 1230 or 1231. These show that the slaves were acquired either by purchase from the previous owners or, having been captured in war, from the captors, or by their voluntary sale of themselves owing to famine and destitution. Very harsh conditions were imposed on the girl-slave by the master: she was to carry out all kinds of duties in the house and outside in the fields, clean and unclean, and she was enjoined to suffer all physical violence from the master without demur.[2]

The question, then, is not whether slaves formed a significant part of the urban population before the period of the Sultanate, but whether the number of slaves grew and, if so, to what extent, under the Sultanate. There is no way in which the question can be definitively answered; but the frequency of references to slaves of all kinds in our texts certainly suggests their pervasive presence.

First of all, slaves were obtained by force in large numbers as the Sultans' armies invaded alien territory and made prizes of such civilian population as they could lay their hands on. When Quṭbu'ddīn Aibak raided Gujarat in 1197, as many as 20,000 persons were made slaves (*barda*); and his expedition to Kalinjar in 1202–03 is said to have similarly produced 50,000 slaves.[3] In 1205–06 Mu'izzuddīn led a campaign in north-west Panjāb against the Khokars: the booty in the form of slaves was so large that 'five slaves were sold for a *dīnār*'.[4] Balban, as a noble, led a campaign against Ranthambhor in 1253–54, and gained 'horses and captives (*barda*)' without number.[5] When, as Sultan, Balban twice undertook expeditions in the Doāb up to the Ganga, his forces seized so many 'slaves (*barda*), beasts of burden and cattle' that their prices greatly fell (at Delhi presumably).[6] In the early 1290s, Marco Polo attributed the plenitude of slaves in Bengal to people seized in the rulers' wars with surrounding areas.[7] In 1312–13, 'horses and captives (*barda*)' were expected to be gained in booty when 'Alā'uddīn Khalji sent off Malik Kāfūr on his Warangal expedition.[8] Under the same Sultan, Mongol women and children, captured upon the rout of a Mongol raid, are

said to have been sold in 'the Delhi slave market' (*bāzār-i barda*) just like 'slave girls and slave boys of Hindustān'.[9] Ibn Baṭṭūṭa received soon after his arrival in Delhi (1333–34) as a gift from the Vizier 10 slave-girls, being 'captives taken from the infidels', apparently from the poorer classes since he found them to be dirty and unfamiliar with 'civilized ways'.[10] 'No day passes without the sale of thousands of slaves for the lowest prices on account of the great number of captives and prisoners' gained from the wars carried on by Muḥammad Tughluq, says a report contained in a foreign account closed in 1343.[11] In the *Futūḥāt-i Fīrozshāhī*, Fīroz Tughluq makes it clear that the captives taken in war included women, because he refers to children born of such captives fathered by their new masters.[12] There were also villagers within the Sultanate territories enslaved in local expeditions. In 1354, Naṣīruddīn at Delhi related an anecdote of the time of Shaikh Farīd (d. 1265), when in the vicinity of Ajodhan (Pakpattan in the Punjab) a village was sacked by the local governor (*muqṭi'*) who enslaved its inhabitants, including the wife of a ghee-seller.[13] Speaking of about the same time, Niẓāmuddīn in 1318 related the story of how an elderly woman recently seized (*nau-barda*) from the recalcitrant region (*mawās*) of Katehr was released by her sufic master.[14] According to 'Afīf, Fīroz Tughluq ordered 'all holders of *iqṭā's* (territorial assignments) and all officers that when they ransack any place they should gather slaves and send whomever of these are suitable for the royal establishment to Our court.'[15] Forcible capture was, then, the major means whereby the slave population was replenished and enlarged.[16]

Some enslavement also resulted from the pressure of the revenue demand. In 'Alāu'ddīn Khaljī's time, 'the peasants (were) so submissive and obedient to him that they sold their women and children to pay the land-tax'.[17]

In addition to slaves so collected, there were immigrant slaves (that is, slaves coming to India in the train of their masters) or those imported from abroad. Among the elite slaves, we have instances of both kinds: Quṭbuddīn Aibak, representing the first kind, and Balban, the other.[18] Female slaves too were imported: Amīr Khusrau (1283–84) speaks of the import and fixing of prices of Turkish slave girls, and Fīroz Tughluq's vizier, Khānjahān Maqbūl, was said to have gathered 2,000 slave girls brought from 'Byzantium (Rūm) and China'.[19] On the other hand, India too exported slaves. Mukhtārī (d. 1118–21), a poet of Ghaznīn, wrote satirical verses about a 'Hindu slave' he had purchased in the market (*bāzār*).[20] When the historian Minhāj Sirāj wished to send assistance to his sister in Khurāsān in 1250, he sent her, among other goods, 40 slaves gifted to him by the Sultan for the purpose.[21] In 1314 Niẓāmu'ddīn narrated the story of a *sūfī* from Bihar, who invested money in the purchase of slaves at Delhi, and taking them for sale to Ghaznin earned much profit.[22] In the early 1330s, Ibn Baṭṭūṭa noted as a current phenomenon the transportation of a large number of Indian boy and girl slaves over the Hindukush Mountains, resulting in the death of many, a fact that gave the range its name ('Hindu-killer').[23] Fīroz Tughluq sought to stop the export of slaves, which was conducted mainly in return for imported horses,[24] but the export continued nonetheless. Early in the sixteenth century Bābur reported caravans of 10 – 20,000 'households', bringing slaves (*barda*) and other goods to Kabul from Hindustan.[25] Even if one does not consider the captives carried away by the Mongols in their raids and the massive enslavement and removal of captives to Central Asia from India by Timur in 1398,[26] slave exports probably represented a recurrent net loss to the slave population in India, although it went on being replenished internally.

Any question as to the size of the slave population cannot naturally be answered in precise terms. Writing around the year 1400, 'Afīf says that 'Alā'uddīn Khaljī had collected as many as 50,000 slaves, but under Fīroz Tughluq the number reached 180,000;[27] he also says that a leading noble of Fīroz Tughluq had 4,000 men slaves whom he ultimately manumitted. Baranī said in the first version of his history that each soldier of 'Alā'uddīn Khaljī's cavalry needed to maintain, besides horses, a tent and a draught animal, a male and a female slave as well.[28] We find even the poorest of scholars being served by a male slave or slave girl.[29] The number of slaves in private possession must, therefore, also have been very large. Given these considerations, it would not be surprising if the number of male and female slaves within the Sultanate exceeded half a million, at the very least.

Slaves were regarded as fully disposable articles of property. 'Iṣāmī (1350) imagined an achievable life of pleasure, in which one could buy a female slave (*kanīz*), keep her for a month 'to quench one's lust', then sell her and buy another from the market (*bāzār)* and go on doing so every month.[30] The first thought of the master of a high-priced slave girl upon hearing Shaikh Farīd's prayer that she be given freedom was to sell her off immediately, so that her next master might bear the loss.[31] Both the numbers of slaves and their position as mere commodities meant that slave markets were an important feature of commercial life. This was at least true of Delhi, India's premier city of the time.

As we have seen, Baranī speaks specifically of Delhi's *bāzār-i barda*, or slave market, where captive Mongol women and children were sold as slaves along with Indian slave girls and boys.[32] Accordingly, their prices were quoted as of other articles.[33] When 'Alā'uddīn Khaljī fixed the prices of other major commodities, he also set the prices of different categories of slaves. These Baranī reports as follows:

Slave girl, for work	5 to 12 *ṭanka*s
Slave girl, for concubinage	20 to 30 or 40 *ṭanka*s
Slave boys, handsome, for homo sexual acts	20 to 30 *ṭanka*s
Men slaves, experienced in work	10 to 15 *ṭanka*s
Untrained boy slaves for work	7 or 8 *ṭanka*s

To set these prices in context, they may be compared with the prices of animals reigning under 'Alā'uddīn Khaljī. The price of a milch buffalo was fixed at 10–12 *ṭanka*s, being thus rated higher than untrained boys or ordinary slave girls. Cows in milk, however, fetched only three *ṭanka*s, and pack or draught oxen only four or five *ṭanka*s. On the other hand, the worst horse, the *ṭaṭṭū*, was assigned prices ranging from 10–25 *ṭanka*s, thus being considered worth more than even experienced men slaves![34]

Exceptionally low prices of women slaves were also reported from the time of Muḥammad Tughluq (1324–51), but they appear to have improved in comparison to those of cattle.[35]

The prices of the slaves were largely determined not only by the plenitude of supply, but also by costs of subsistence and the general level of prices. Thus, when after 'Alā'uddīn Khaljī (d. 1316) died and the price regulations collapsed, the prices of slaves rose very greatly.[36] On the other hand, in Bengal in the 1340s, Ibn Baṭṭūṭa found the prices of slaves to be very low, as were prices of commodities in general: he could purchase a good-looking slave girl fit for concubinage for only a gold *ṭanka*, while a milch buffalo cost three silver *ṭanka*s.[37]

Slaves were employed in all kinds of work. A theologian of Delhi, Shaikh Ṣadru'ddīn, got land tilled by his slaves, gaining much profit from the produce so obtained at a time when a great famine affected Delhi and its neighbourhood during Muhammad Tughluq's reign.[38]

A number of slaves worked at different occupations to maintain themselves and their impecunious masters. Nūr Turk, a theologian at Delhi of Sultan Raziyya's time, maintained himself by the labour of his slave, who, out of his earnings as a cotton-carder, gave him a *diram*, that is, a *jītal*, a day.[39] Naṣīru'ddīn related in 1354–55 that a woman ascetic, Fāṭima, lived by the labour of her female slave, who worked incessantly at spinning cotton to provide a minimum sustenance to her mistress.[40] One suspects that this was partly the case also at Shaikh Niẓāmu'ddīn's house at Badaun. Living in poverty, his mother had yet a slave girl who helped her out in spinning yarn.[41] A *ṣūfī*, stung by censure at his complaining too much of hard circumstances, protested that he had only a boy slave, upon whose earnings as a labourer he had to live, taking one-third for himself and leaving two-thirds to him.[42]

There was much domestic work also to be done by slaves, especially women and girls. An Indian slave girl had to light the fire, to cook and lay out the meal for the master, and fetch water, carrying it in pitchers on her head.[43] In a city like Delhi, she might have to get water from a distant tank, like the Ḥauẓ-i Shamsī in Balban's time.[44] Another task assigned to women slaves was the milling of grain, which was now usually done by the rotary hand-mill.[45] Ordinary men slaves too had much physical labour to do, like carrying their master on a palanquin (*ḍola*).[46]

Men slaves were also employed in non-domestic work. Shaikh Niẓāmu'ddīn's maternal grandfather had migrated from Bukhara to Lahore and thence to Badāūn in the thirteenth century. He was a man with much wealth and possessed numerous slaves, of whom some pursued a craft (*kasb*), while others dealt with his money (*māl*) to trade on his account.[47] The father of Niẓāmu'ddīn's disciple, Naṣīruddīn Maḥmūd of Awadh, carried on trade in wool with the aid of slaves.[48] Others would have their slaves serve as soldiers as substitutes for themselves: this happened with the troopers of Iltutmish's royal army (*ḥashm-i qalb*). Such soldiers, as they grew old by the reign of Balban and lacked sons of age to serve in their place, used to send their slaves.[49] The practice revived under Fīroz Tughluq, who seems to have openly tolerated it.[50] How slaves could be employed in various crafts by their masters is also illustrated by what was done by Fīroz Tughluq: he is said to have made about 12,000 of his slaves learn different kinds of crafts, so that they could be set to work in almost all the royal workshops and departments (*kārkhāna-hā-i khāṣ*).[51]

One particular aspect of life at the time had a profane dimension, but since it also created a slave-based service sector, one cannot avoid touching upon it. A woman slave was always subject to sexual advances by her master.[52] Yet, for the more fastidious, young women slaves were especially trained for both bed and company, and their prices were much higher than ordinary slave girls, as we have seen in the quotations of prices under 'Alā'uddīn Khaljī.[53] Amīr Khusrau in 1284–85 tells us of brokers' fixing prices of slave girls after scanning their faces.[54] Similarly, there was a demand for handsome boys for homosexual acts; and their prices too matched those of women slaves sold for concubinage.[55] There was a whole industry to train such young persons in language, arts and manners. During Mu'izzuddīn Kaiqubād's reign (1287–90), 'the courtesans of Hindustan, had slave-boys of handsome appearance and moon-faced slave-girls trained in speaking Persian and music'. Instruction was imparted to them in both Persian and Indian music by 'master musicians and expert performers'.[56] It

turned out that such young slaves of both sexes secured high prices, with substantial gains consequentially made by the entrepreneurs who had got them trained. After ‘Alā’uddīn Khaljī’s sombre times, the prices of such slaves went up to 500, or 1,000 or even 2,000 *ṭanka*s.[57]

For service in harems, there was considerable demand for eunuchs. In the early 1290s Marco Polo noted the plenitude of eunuchs in Bengal, so that ‘the Barons who keep them get them from that province’.[58] In 1516, Barbosa described how ‘Moorish merchants’ in Bengal purchased boys from their parents or abductors and had them castrated, from which ‘many’ died.[59] As Baranī notes, ‘handsome eunuchs’ fetched as high prices as beautiful slave girls,[60] owing to the high demand from potentates with harems to look after.

For ordinary slaves, the master’s treatment was expected to be harsh. It was assumed as a general fact that if one’s slave ‘does not do what he is instructed to do and does what he is not to do, then the master canes him and strikes at him, as may be necessary’.[61] As to women slaves, they were not only vulnerable to sexual abuse by their masters, but also faced physical torture, denial of sufficient food and humiliation at the hands of their masters’ wives.[62]

It is not surprising that the slaves had to be prevented from taking to flight. Nothing is more telling than the word *zanjīr*, irons or iron chain, prefixed to the word for slave, when the number of slaves is specified.[63] Slaves fled so often that it was apparently a common practice for the anxious masters to solicit prayers from some man of God for their detection and apprehension. Shaikh Niẓāmu’ddīn, who related a story to this effect,[64] is said to have prayed for the recovery of a slave who had stolen his master’s money and then fled.[65] As to women slaves, Amīr Khusrau warned masters that they would lose them if they left them alone outside the house.[66]

Undoubtedly, flight could have set some slaves free. But a larger number probably obtained freedom from deliberate acts of manumission by their masters. Such acts were deemed meritorious (for credit in the after-life), and some granted freedom to slaves even if this implied collusion in apostasy. In 1318, Ḥasan Sijzī, going with the army to Devagiri, returned *gratis* to her parents a girl purchased as a slave there; and when he narrated what he had done, Niẓāmu’ddīn reminded him of the story of Maulānā ‘Alā’uddīn of Badāūn, who released an old woman slave, newly captured, to go back to her Hindu son—‘though conventional scholars would regard this as wrong’.[67] When a slave-noble of Fīroz Tughluq, ‘Imādu’l Mulk became old and ill, he solicited his own manumission from the Sultan, and then freed 4,000 of his slaves, who had households (*bunahdār*) and had been purchased by him. In order to provide them with means of subsistence as freed men, he gave them sufficient capital (*māya*) to pursue their occupation.[68] The difficulty of finding sustenance upon freedom meant that in many cases after manumission the freed slaves simply continued to serve the same master. In 1308 Amīr Ḥasan Sijzī freed his slave Malīḥ, but in 1318 Malīḥ was still attached to him as ‘a manumitted servant’.[69] Similarly, with concubines who bore children to their master, it was probable that they continued in the same position as before, except that under Muslim law, they could not be sold.[70] For such as were not concubines, provision, such as marriage, needed to be made upon manumission: Ibn Baṭṭūṭa tells us that Muhammad Tughluq had fixed Wednesdays for freeing male slaves, Fridays for freeing female slaves and Saturdays for marrying men slaves to female slaves.[71]

In time there might arise another reason for manumissions, although this is of such a nature that evidence for it can hardly be looked for in the sources available to us. Slaves in

the sphere of production tend to lose economic viability, since whatever be their level of performance, the master has to provide them with the means of subsistence. If free labour becomes available in large numbers and the master gains more by hiring such labour and paying by results, he may prefer to abandon his slaves by simple acts of manumission, thereby throwing them on to the labour market and absolving himself of all obligation of maintaining them. We shall see below that a large class of free craftsmen and labourers existed in the Delhi Sultanate, and with the decline in wages that its expansion necessarily caused, could therefore be expected to gradually thin down the ranks of slaves employed in productive work. It is significant that while early in the sixteenth century Bābur enthusiastically speaks of the availability of skilled labour in India, he nowhere mentions the presence of slave labourers; rather, it is only the castes of labourers that he has in mind:

> Another pleasant thing [in Hindustan] is in [its having] every kind of occupation (*sanf*) and craftsmen (*ḥarfagar*), that are unlimited and infinite (in number). For every kind of work and article, there is a caste (*jam'i*) fixed and established, having been hereditarily doing that work or dealing with that article .... Of every kind of artisan and every kind of work there is, in a like manner, an unlimited and infinite number.[72]

Slave artisans practically disappear from view in Mughal India, so that the decline of slavery in productive labour after the fourteenth century is a manifest fact. Since slavery continued to be an element of domestic service in Mughal times as well, it is inferable that the decline of slavery in the productive sectors was due not to any change in social customs or moral values, but had economic roots of the kind we have suggested above.

FREE LABOUR

Despite the large size of the slave population in the Delhi Sultanate, it was still dwarfed by the numerous mass of technically free-born labourers. This can be seen from just one set of figures. 'Alā'uddīn Khalji possessed 50,000 slaves and Fīroz Shāh had a much larger number, 180,000. But even of the latter, only 12,000 were put to work as craftsmen and labourers, and of these, again, only a part could have been put to work at Sultan Fīroz's building projects.[73] Yet, for his building work, 'Alā'uddīn had employed as many as 70,000 workmen.[74] In the royal building department, then, given these figures, slaves could hardly have comprised more than one-sixth of the total labour force, and in reality were probably far fewer.

In the skilled sector of non-agricultural labour, large numbers worked as (to use the terminology of modern times) self-employed persons, doing jobs for different customers. One can see this best from the information we have on textile crafts. Shaikh Niẓāmu'ddīn's mother in Badāūn, called upon to make a turban for her son, first secured raw cotton, which she gave to a cotton-carder, and then, having spun it into yarn at home by herself and her female slave, gave it to a neighbouring weaver to be made into turban-cloth.[75] Niẓāmu'ddīn, in an anecdote, describes a weaver with his loom at home containing wound-up woven cloth, which he handed over at night to a thief who had found nothing else in his hut worth taking.[76] 'Ainu'l Mulk Māhrū quotes a weaver's wages in terms of mantles or sheets (*chādar*) woven by him, apparently out of yarn supplied to him.[77] Tailors similarly drew their wages from robes sewn

by them out of the cloth that the customers provided to them, for this is how their charges too are quoted.[78] The one crucial stage of spinning seems to have been exclusively left to women working at home. When Fāṭima's slave woman maintained both of them by spinning.[79] she must have either sold the yarn to someone or turned raw cotton into yarn in return for some money.

One may infer from this evidence that the various persons involved in processing cotton until it was turned into cloth to be worn, or otherwise used, served only the direct consumers. But, as we have seen in Chapter 10, many varieties of cloth (including even the inferior *pat*, carried from Awadh to Delhi),[80] were produced for distant markets; and there were cloth-sellers (*bazzāz*), such as one at Awadh, appearing in a sufic anecdote, who could be quite rich, with a capital of over 2,000 *ṭanka*s.[81] Whether a merchant purchased cloth to sell at another place, or a cloth-seller obtained it for local sale, a chain would be established where each producer, at each stage of production, dealt only with middle-men. When a merchant gave yarn to a weaver to be turned into cloth, this would be a kind of 'putting-out' arrangement. Though there is no explicit evidence for this from our period, it would be safe enough to assume that such transactions were not uncommon.

It is also likely that where the material used was expensive, for example silk interwoven with gold or silver wire, the putting-out system would involve too much of a risk, and so, even in the textile industry, artisans would have had to be assembled under the roof of the employer. It is true that the use of the word *kārkẖāna* applicable to such workshops has so far not been traced with respect to private undertakings in the Sultanate period, but the word has been used, with a fairly ample description, for royal workshops under Fīroz Tughluq. These establishments were classified as subsidized (*rātibī*) and unsubsidized (*ghair-rātibī*). Among the latter were workshops (*karkẖāna-hā*) for robe-making (*jāmadār kẖāna*), banner-making ('*alam-kẖāna*) and carpet-weaving (*farrāsh-kẖāna*), supplying articles of enormous worth to the court.[82] It must be assumed that artisans of different kinds were employed here, although, as we have seen, trained slave-workers were also put to work in such establishments. In the royal 'embroidery workshop' (*dār ṭarāz*) of Muhammad Tughluq, 4,000 silk-workers and as many gold-brocade weavers (*zarkash*) were reputedly employed.[83]

In other skilled crafts we have indirect evidence for craftsmen working on their own. For instance, the occupations on which Fīroz Tughluq remitted taxes included those of flower sellers, betel-leaf sellers, grain transporters, weigh-men (*kayālī*), indigo makers, fishmongers, cotton-carders, soap makers, rope sellers, yogurt makers, oilmen, and roasted gram-and-meat sellers.[84] Most of them probably were made to pay tax because they had shops or stalls, from where tax could be collected. The list of professions is manifestly incomplete, and it is in any case confined to those on which taxes were remitted. Baranī speaks of master crafsmen (*ustādān*) in 'Alā'u'ddīn Khaljī's time engaged in such occupations as bow-making, arrow-making, turban-sewing, stocking-sewing, rosary-threading and cutlery-making—'such expert artisans have not been found at any other time in the memory of the people of Delhi'.[85] The context makes it clear that they carried on their respective occupations on their own, and were thus not employees of anyone.

In the building industry, skilled men and labourers had to come together upon being hired by the builder, since the work had to be done mainly at the site. 'Afīf mentions the following categories of workmen in Fīroz Tughluq's employ who worked on his buildings: stone cutters, woodcarvers, blacksmiths, carpenters, sawyers, lime-makers and masons.[86]

A large number of persons were employed as attendants and domestic servants. These were divided among numerous categories, each one confined to the performance of a particular duty. Ibn Baṭṭūṭa tells us that besides higher staff (*arbāb*) at the tomb of Quṭbu'ddīn Mubārak Khaljī, a large number of persons were employed as inferior staff (*ḥāshiya*), comprising carpet-cleaners, cooks, messengers, water-servers, sherbet-servers, betel-leaf-servers, men bearing arms, spear-men, camel-keepers, basin attendants, chamberlains and announcers.[87] Such minuteness of division in a full staff of 460 (including the *arbāb*) at the tomb is remarkable.[88] One can infer that such classification was also duplicated in royal and aristocratic households.

A large number of unskilled labourers were kept outside regular employment and had to offer themselves for daily hire. Ibn Baṭṭūṭa remarked that if one did not have slaves, one could hire men to carry one's palanquin, for in the 'town there are always a number of these men standing in the bazaars and at the Sultan's gate and the gates of other persons, for hire'.[89]

There is practical unanimity in the sources that the workmen's wages at Delhi were exceptionally low in 'Alā'uddīn Khaljī's time because the Sultan had instituted a system of regulated prices which he succeeded in keeping steady and low. A good servant (*chākar*) could then be employed for eight *ṭanka*s, or at most 10–12 *ṭankas* (a year?), and a robe (*jama'*) could be sewn for just two *jītal*s (48 or 50 *jītal*s for a *ṭanka*).[90] Shaikh Naṣīruddīn at Delhi recalled that for cotton-carding and sewing work (*doz-bandī*), a (daily) wage of four or six *jītal*s sufficed.[91] Māhrū even recalled wages at as low rates as two or three *jītal*s a day, the weaver weaving a mantle (*chādar*) for two *jītal*s and a tailor sewing an unlined garment for four *jītals*.[92]

When, after 'Alā'uddīn Khaljī's death in 1316, Quṭbu'ddīn Mubārak Khaljī (1316–20) abandoned all measures to control the market, prices rose radically, and the wages of labour increased, according to Baranī, by about four times: Those servants (*chākar*s) who used to receive 10 or 12 *ṭanka*s in (annual?) wages now obtained 70 or 80 or 100 *ṭanka*s.[93]

The wages next reported are those belonging to the early years of Fīroz Tughluq's reign (acc. 1351). Māhrū, presumably referring to the great famine of the reign of Muḥammad Tughluq, says that prices had risen greatly then, and so had wages. But now that times of abundance had followed and prices had greatly fallen, wages still remained high: a weaver who in 'Alā'uddīn Khalji's time wove a mantle for two *jītal*s now took thirty *jītal*s; a tailor, for the work for which he took four *jītal*s was now not satisfied with even thirty'.[94] It is not clear whether the contemporary wage rates Māhrū quotes are those prevailing at Mūltan or Delhi. But Shaikh Naṣīru'ddīn at Delhi in 1354 also complained of high money wages compared to those of Ala'uddin Khalji's time: for sewing a mantle (*labācha*), they now took as much as one *ṭanka*.[95] Baranī, in his first version, quoted the current salary (annual presumably) at 50 *ṭanka*s for a servant (*chākar*), compared to 8–12 *ṭanka*s in 'Alā'uddīn Khaljī's time.[96]

Wages in terms of money thus varied greatly over time, usually to keep pace with prices. It is, however, difficult to convert the quotations of money wages into real wages by reference to prevalent prices. Theoretically, this should be possible for the time of 'Alā'uddīn Khaljī, for which Baranī provides us with a list of prices. As we have seen, Ṭhakkura Pherū's statements give us a weight for the *man* in 'Alā'uddīn Khaljī's time, equal to 8.8032 kg,[97] and, given the price of 7.5 *jītal*s for one *man* of wheat, quoted by Baranī, a *jītal* would have

fetched 1.174 kg of wheat. Even a daily wage, then, of four *jītal*s would have bought an amount of wheat (4.695 kg) that was just marginally in excess of what the wage received by a sweeper (presumably employed at the lowest wage-rate) would have bought in Akbar's time (4.534 kg.).[98] Naṣīru'ddīn seems to quote four *jītal*s as wages of skilled workmen, while Māhrū remembered ordinary wages to have been as low as two or three *jītal*s, at which the wage-earner would have been much worse off than his successor in Akbar's time.

We have been considering the labour market, with labourers free to make choices, so that wages were fixed mainly by the forces of supply and demand. But there were other factors too. The large presence of slavery must have put pressure on the wages of free labourers, just as, conversely, in time, low wages, through an ample supply of labour, could have undermined the economic viability of slavery, especially outside domestic service. Moreover, 'free' labour was not always free. Authorities felt entitled to extort forced labour (*begār*) from large numbers of people. 'Whenever the officials of Ucch,' wrote Māhrū, himself their superior as Governor of Multan, 'feel the need, they make people perform *begār*, and shower vile abuses on them.'[99] Unluckily, we do not have much information on how, and from whom, forced labour was taken. Finally, there was the caste system, whose influence on labour availability is difficult to define in precise terms, although about the existence of such influence there can hardly be much doubt.[100]

NOTES AND REFERENCES

1. Chanana, *Slavery in Ancient India*.
2. See Prasad, tr, *Lekhapaddhat*, pp. 158–64. Also see Chapter 2 in this volume.
3. Ḥasan Niẓāmī, *Tāju'l Ma'āṣir*, pp. 218, 232.
4. Ashīdu'ddīn Faẓlullāh, *Jāmi'u't Tawārīkh*, I, p. 34.
5. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 65.
6. Baranī, *Tarikh-i Fīrozshāhī*, p. 57.
7. Marco Polo, *Ser Marco Polo*, II, p. 115.
8. Ibid., II, pp. 326–27.
9. Ibid., II, pp. 321–22.
10. Ibn Baṭṭūṭa, *Riḥla*, p. 507, tr. Gibb, III, p. 741.
11. Shihāb al-Dīn al-Umarī, *Masālik al-Absār*, p. 45.
12. Fīroz Tughlaq, *Futūhāt-i Fīrozshāhī*, p. 6.
13. Ḥamīd Qalandar, *Khairu'l Majālis*, pp. 236–38. It is to be noted that the oil seller was apparently a Muslim, and so were probably the other villagers, for Naṣīru'ddīn uses the neutral word *khalq* (people), not *kuffār* ('infidels') for them. Such raids continued in subsequent centuries. See, for example, the story of a raid on a village near Nīmkhār (within the territory of Kanauj) in the reign of Bahlol Lodī (1451–89), in which its inhabitants were enslaved by the Afghan soldiery, including a young woman, around whom the story revolves (Mushtāqī, *Wāqi'āt-i Mushtāqī*, pp. 234–38).
14. Sijzī, *Fawā'idu'l Fu'wād*, p. 340.
15. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 267–68.
16. So the vulgar boast of 'Iṣāmī (1350) that—owing to what Maḥmūd of Ghaznīn had done—'We (now) by force instantly convert the women and children of Hindus into our slave-girls and slaves' (*Futūḥu's Salāṭīn*, p. 29). But, as the anecdote of the enslavement of the people of the ghee seller's village (Ḥamīd Qalandar, *Khairu'l Majālis*, pp. 236–38; see *fn.* 10) shows, Muslim men and women too were enslaved in raids. In 1259 a governor of Kara, Arsalān Khān, suddenly raided Lakhnauti, seizing 'the property, cattle and slaves (*barda*) of Muslims' (Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 35).
17. Baranī, *Tārīkh-i Fīrozshāhī*, p. 340.

18. Balban, as a Turkish child-slave, was brought to the Baghdād slave market, purchased and taken to Gujarat by a merchant (*khwāja*), Jamālu'ddīn Baṣrī. He trained him and in 1232–33 took him to Delhi, where Sultan Iltutmish purchased him (Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 48).
19. Khusrau, *I'jāz-i Khusrawī*, I, pp. 166–67; 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 399–400.
20. Quoted in Injū, *Farhang-i Jahāngīrī*,I, p. 256 (s.v. *sapist*).
21. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī,* I, p. 483; II, p. 61.
22. Sijzī, *Fawā'idul Fuwād*, pp. 192–93; see also p. 15.
23. Ibn Baṭṭūṭa, *Riḥla*, pp. 390–91, tr. Gibb, III, p. 586.
24. Māhrū, *Inshā-i Māhrū*, p. 213.
25. Bābur*, Bāburnāma*, pp. 199–200, tr. Beveridge, I, p. 202. Cf. also 'Abdu'r Raḥīm's Persian translation, f.168b. Bābur's statement is partly corroborated by Mu'īnu'ddīn al-Asfazārī, *Auṣāful Jannāt fī Auṣāf Madīna Harāt*, who, writing in 1494, says that Herat, then in all its glory as the capital city of Khurāsān, drew to itself 'nearly twenty thousand slaves from Turkistān, Hindostān, etc.', all sold at good prices.
26. For the Mongol practice of carrying away as slaves whole civilian populations, as illustrated by their action upon their destruction of Lahore in 1241, see Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, p. 466. Rashīdu'dd Faẓlullāh notes in his *Jāmi'u't Tawārīkh*, I, p. 66, that 'the Hindu slaves' found in the villages of Injū in Iran in his time (*c.*1300) were mostly descendants of the multitude of Hindu slaves gathered by the Mongol commander Sālī Noyān in his raids into 'Hindustān and Kashmir' during the 1250s. The account of Timūr's removal of a large mass of civilian population from Delhi and other areas may be read in Sharafu'ddīn 'Alī Yazdī, *Ẓafarnāma*, II, pp. 122–24, 136, 141, 153. Timūr had earlier slaughtered about 100,000 captives in his camp gathered before his assault on Delhi (pp. 92–94), though Yaḥyā Sirhindi, *Tarīkh-i Mubārakshāhī*, p. 106, puts the number at 50,000.
27. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 270, 272, 444. Women slaves are not apparently included in these numbers. The author of the *Masālik al-Abṣār,* ed. Fariq, p. 25 (tr. Spies *et al.*, p. 25) received reports that Muḥammad Tughlaq possessed 20,000 Turkish slaves and 10,000 eunuchs.
28. Baranī, *Tārikh-i Fīrozshāhī*, p. 353, f.143a.
29. Later, the text refers to slaves and slave-girls working for poor men and women or in impecunious households. Mas'ūd Sa'd Salmān, the Ghaznavid Indian poet of the late eleventh century, wrote of how he, his man slave and slave girl could all live content with just a small amount of grain (verse quoted by Muḥammad Qāsim Surūrī, *Majma'u'l Fārs*, III, p. 1214 (s.v. *gāl*).
30. 'Iṣāmī, *Futūḥu's Salāṭīn*, p. 20.
31. Sijzī, *Fawā'idul Fuwād*, pp. 316–17.
32. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 321–22.
33. In case of the slave-girl for whose freedom Shaikh Farīd (d. 1265) prayed, Niẓāmu'ddīn describes her, at her first mention, as 'a slave-girl (*kanīzak*) worth a hundred *ṭankas*, more or less' (Sijzī, *Fawā'idul Fuwād*, p. 317).
34. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 313–15.
35. The *Masālik al-Abṣār* of Al-'Umari', pp. 48–49, tr. Spies *et al.*, pp. 45–46, quotes the price of an ordinary slave girl for house-service at Delhi as not exceeding eight *ṭanka*s, while those fit for both 'service and bed' cost 15 *ṭanka*s, prices outside Delhi being still lower. But a good cow is reported to have fetched only two *ṭankas*, the same price given also for a buffalo (*Masālik al-Abṣār*, ed. Fariq, p. 62; tr. Spies *et al.*, p. 58).
36. Al-'Umari', *Masālik al-Abṣār*, p. 384. In 1318 at Devagiri, Amīr Ḥasan Sijzi's servant, Malīḥ, himself a freed slave, purchased a female child-slave for five *ṭanka*s; her parents offered him 10 *ṭanka*s, at which price Amīr Ḥasan bought her to give her back to the parents *gratis* (Sijzī, *Fawā'idul Fuwād*, p. 339). These prices broadly tally with those prevailing at Delhi in 'Alā'uddīn Khalji's time.
37. Ibn Baṭṭuṭa, *Riḥla*, p. 610, tr. Husain, pp. 234–35.
38. Ibn Baṭṭuṭa, *Riḥla*, pp. 472–73; tr. Gibb, III, p. 698.
39. Niẓāmu'ddīn's conversations, 1318; Sijzī, *Fawā'idul Fuwād*, pp. 334–35.
40. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 138.

41. Ibid., p. 191.
42. Ibid., pp. 87–88.
43. Khusrau, *I'jāz-i Khusrawī*, I, pp. 167, 170; and Ḥamīd Qalandar, *Khairu'l Majālis*, p. 93.
44. Baranī, *Tārīkh-i Fīrozshāhī*, p. 56.
45. Khusrau, *I'jāz-i Khusrawī*, I, p. 169, for references to *jawārī-i āsiya-kash* (slave girls working at the *āsiya* or rotary mill) and the *dasta-i āsiya* (handle of the rotary mill), grasped by the slave girl. Also Sijzī, *Fawā'idul Fuwād*, p. 340, for a slave woman milling grain. The rotary hand-mill (*dast-ās*) is described in Shādīābādī, *Miftāḥu'l Fuẓalā*, f.119a, with an illustration, showing it worked by a woman.
46. Ibn Baṭṭūṭa, *Riḥla*, p. 506, tr. Gibb, III, p. 740.
47. Amīr Khwurd, *Siyaru'l Auliyā*, p. 94.
48. Ibid., p. 238.
49. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 61–63.
50. Ibid., p. 553; 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 96, 302–03.
51. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 270–71.
52. See Khusrau, *I'jāz-i Khusrawī*, 1:166, 169; 'Iṣāmī, *Futūḥu's Salāṭīn*, p. 20.
53. Baranī, *Tārkh-i Fīrozshāhī*, p. 314.
54. Khusrau, *I'jāz-i Khusrawī*, I, pp.166–67.
55. Baranī, *Tārīkh-i Fīrozshāhī*, p. 314.
56. Ibid., p. 157. He tells us that for 'beautiful girls', the training included instruction in deportment, charm of manners, singing, playing the guitar, reciting verses, ready repartee, and playing dice and chess (p. 156).
57. Ibid., p. 384.
58. Marco Polo, *Ser Marco Polo*, II, p. 115. This seems to be the earliest reference to human castration in Bengal.
59. Barbosa, *Book of Duarte Barbosa*, II, p. 147.
60. Baranī, *Tārīkh-i Fīrozshāhī*, p. 384.
61. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 104.
62. Khusrau, *I'jāz-i Khusrawī*, I, pp. 169–70.
63. For example, *chihil zanjīr banda* (40 'chain' slaves) in Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 61.
64. Sijzī, *Fawā'idul Fuwād*, pp. 425–26.
65. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 184. The master of the slave was Khwajagī Khujandī, a merchant of Awadh, but the theft and the flight of the slave occurred at Delhi. The slave fled to Kara, and was caught there owing to an indiscreet visit to the ale-house.
66. Khusrau, *I'jāz-i Khusrawī*, I, p. 170.
67. Sijzī, *Fawā'idul Fuwād*, pp. 278–79, 339–40. Ibn Baṭṭūṭa was stone-hearted enough to refuse to return a young woman, enslaved in a raid on Sondapur (Goa), to her husband, who was prepared to pay ransom for her (*Riḥla*, p. 571, tr. Husain, p. 196).
68. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 444.
69. Sijzī, *Fawā'idul Fuwād*, pp. 5, 339.
70. In the story told by Shaikh Niẓāmu'ddīn of a grandson of Qāẓī Ḥamīdu'ddīn Nāgaurī deciding finally to free a high-priced slave girl of this sort, it is, perhaps, to be assumed that the manumitted slave would continue in his household (Sijzī, *Fawā'idul Fuwād*, pp. 316–17). Under Muslim law, a concubine who has a child by her master can no longer be sold or gifted away; but otherwise her servile obligations continue (Levy, *Social Structure of Islam*, pp. 79–80).
71. Ibn Baṭṭūṭa, *Riḥla*, p. 449, tr. Gibb, III, p. 668.
72. Bābur, *Bāburnāma*, p. 460; Persian translation, ff.472–473a. Cf. tr. Beveridge, II, p. 520, where the translation needs to be made a little more accurate.
73. Afīf, *Tārīkh-i Fīrozshāhī*, pp. 270–72, 444.
74. Baranī, *Tārīkh-i Fīrozshāhī*, p. 340.
75. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 191.

76. Sijzī, *Fawā'idul Fuwād*, pp. 431–32.
77. Māhrū, *Inshā'-i Māhrū*, p. 48.
78. Baranī, *Tārīkh-i Fīrozshāhī*, p. 353, f.144b; Māhrū, *Inshā'-i Māhrū*, p. 48.
79. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 138.
80. Ibid., p. 183.
81. Ibid., pp. 118–19. The *bazzāz* had promised he would give the ṣūfī, who prayed for his sick son, one-fourth of his *māl* (capital) if his son recovered: in the event, the amount paid to the ṣūfī came to 500 or 600 *ṭanka*s.
82. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 337–41. There were workshops also for weapons (*salāḥ-khāna*), crockery (*ṭashṭ-khāna*) and jewellery (*jawāhar-khāna*). There were 36 *kārkhāna*s, comprising both *rātibī* and *ghair-rātibī* establishments.
83. Al-'Umarī, *Masālik al-Absār*, pp. 37–38, tr. Spies *et al.*, pp. 29–30.
84. The list of taxes, with slight variations, appears in Fīroz Tughluq, *Futūhāt-i Fīrozshāhī*, pp. 5–6, and *Sīrat-i Fīrozshāhī*, pp. 117–18. In the order listed by me, I read the names of the taxes as *gul-faroshī; jizya-i tanbūl; kayālī* (not *kitābī*); *nīl-garī; māhī-faroshī; naddāfī; ṣabūn-garī; rīsmān-faroshī; jughāwāt*(?); *raughan-garī; nakhwud-biryāngarī*.
85. Baranī, *Tārīkh-i Fīrozshāhī*, p. 365.
86. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 331.
87. Ibn Baṭṭuṭa, *Riḥla*, p. 524, tr. Gibb, III, p. 760.
88. For the full strength of the staff, see Ibn Baṭṭuṭa, *Riḥla*, p. 522, tr. Gibb, III, p. 579. Ibn Baṭṭūṭa usually gives the category names in Persian.
89. Ibid. pp. 506–07; tr. Gibb, III, p. 740.
90. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 353, f.144b, 385.
91. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 240.
92. Māhrū, *Inshā'-i Māhrū*, p. 48.
93. Baranī, *Tārīkh-i Fīrozshāhī*, p. 385.
94. Māhrū, *Inshā'-i Māhrū*, p. 48.
95. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 240.
96. Baranī, *Tārīkh-i Fīrozshāhī*, p. 353, f.144b.
97. The reader is reminded that this value is derived by the rate of one *ṭanka* in weight-scale at 3.668 g. (Dyell, *Living Without Silver*, p. 261) and multiplying it by 240, according to the scale of weights furnished by Pherū (Dasharatha Sharma, *Early Chauhan Dynasties*, p. 319).
98. For the purchasing power (in terms of wheat) in Akbar's time, see Moosvi, *Economy of the Mughal Empire* , p. 337 (where the amount of wheat is stated in British standard seers).
99. Māhrū, *Inshā'-i Māhrū*, p. 42.
100. On this matter, some speculation is attempted in Habib, *Religion in Indian History*: editor's essay on Kabīr, pp. 145–48.

CHAPTER 12

Transport, Communications and Navigation

Irfan Habib

INLAND TRANSPORT

Describing how in Fīroz Tughluq's time people made their way from Quṭb Delhi to Fīrozshah Kotla (Fīrozābād), a distance accurately given as five *kuroh*s (or 15 kilometres),[1] 'Afīf says that they could travel by ox cart, camel (*sutūr*), horse, or palanquin, all available for hire. A place for a single person in the cart could be secured for four *jītal*s, while a camel (or ox, *sutūr*) could be hired for six *jītal*s, a horse for 12 *jītal*s and a palanquin (*ḍola*) for half a *ṭanka* (24 or 25 *jītal*s).[2] Poorer people must of necessity have travelled by cart, the cheapest means of conveyance.

Slow as the cart was, this was apparently the means of conveyance used for long-distance travel by ordinary persons. Niẓāmuddīn related how a man left Delhi to go to Ajodhan (mod. Pakpattan in the Punjab, Pakistan), had as a fellow-traveller a 'wandering singing woman', so that at a later stage (*manzil*) in the journey, they found themselves on the same cart.[3] It would thus seem that over a long journey, one had to transfer from one cart to another at different places. Travel on carts must, of course, have been widespread: the famous Arab geographer Idrīsī (1154) reports that between Baruch (Broach) and Anhilwara (Pattan) in Gujarat, one journeyed on ox-drawn carts for eight days.[4]

Slightly better-placed persons could hire a camel. Shaikh Naṣīru'ddīn recalled in 1354 how he used to come from Awadh (Ayodhya) to Delhi on a camel, which he arranged to be kept in a nearby village while staying in Delhi. The journey took 40 days.[5] The Khajuraho sculptures (Lakshmana temple, tenth century) show a procession of camels (one-humped dromedaries), so that the use of these animals for conveyance well preceded the establishment of the Sultanate.[6] The famous frieze at Mandor (Marwar), dated to the twelfth century, shows one-humped camels hitched to the characteristic two-wheel camel-cart, with a high clearance.[7] The palanquin (*ḍola*) was a respectable mode of conveyance within the city, each carried by four men, with a set of four men walking side by side to take their turn.[8] It could be used for travel for some distance as well. Maulānā 'Alā'uddīn 'hired a *ḍola*' to return from Tilpat to Delhi upon Shaikh Niẓāmu'ddīn's instructions;[9] and Ibn Baṭṭūta, possessed of a *ḍola*, hired men to carry him in it when accompanying Muḥammad Tughluq on a hunt.[10]

For the carriage of goods of bulk, especially foodgrains, pack-oxen were very widely employed. A minister of 'Alāu'ddīn Khaljī recalled the Sultan telling him that the *nāyak*s or headmen of grain transporters brought the grain to Delhi using 10,000 beasts (*sutūr*), and some even 20,000.[11] When, under Muḥammad Tughluq, the revenue collector of Amroha (western UP) was called upon to supply 30,000 *man*s (or 2641 quintals) of foodgrains to Delhi, he did so by arranging to transport this quantity on 3,000 oxen, each beast thus carrying over 88 kilograms.[12] These were apparently owned and driven in herds by men styled as *kārvānī*s (as reported by Baranī), but known more commonly as *banjāra*s.[13] Pack-oxen were also used in transportation by ordinary merchants, as is shown by documents from Gujarat relating to tax charged on oxen carrying betelnut, coconut, pepper, etc., between Pattan and Nagasarika (Navasari).[14]

Ibn Baṭṭūṭa also mentions the baggage carried on the back of camels when he set out from Delhi.[15] There is an anecdote attributed to Shaikh Niẓāmu'ddīn about a fast-going she-camel, which used to carry water from a tank at Kaithal (Haryana) to supply drinking water to the ruler of Kanauj.[16] But, as Ibn Baṭṭūṭa notes elsewhere, it was oxen in the main that were used for the purpose of baggage transportation.[17]

While mentioning bullock carts as conveyances for persons travelling between Broach and Anhilwara (Pattan), Idrīsī says that the carts also carried goods.[18] The *Lekhapaddhati* similarly shows merchants in Gujarat taking their goods into towns for sale, loaded on carts.[19] This means of transport was usually employed for goods of higher value, which could not be dispersed over the backs of numerous animals; moreover, small merchants could also travel in the carts along with their goods.

Of the roads, we have few descriptions. Visiting Bengal in 1243–44, Minhāj Sirāj saw a road running over embankments (*pul-hā*) between Lakhnautī and Devkot, a matter of 10 days' journey, all land below the embankments being flooded during the rainy season. Their construction was attributed to the local Sultan Ḥusāmu'ddīn 'Iwaẓ Khaljī (d. 1227).[20] Of the roads that radiated from Delhi, the one to the south was marked, at least up to Dhār in Mālwa, 24 days' journey away, by pillars displaying the distances traversed.[21] The same road led to Devagiri (Daulatabad), and Muḥammad Tughluq is said to have established a building and a hospice at the end of each day's journey (*manzil*), with provisions for eatables; and he also planted trees on both sides of the road.[22] In Malabar, Ibn Baṭṭūṭa was greatly impressed with the road that ran along the coast from Sondapur to Quilon, a two-month journey. Running under the shade of trees, it had wooden shelters with seats for both non-Muslims and Muslims, spaced at each half '*mīl*' (1.5 kilometres), with provision for drinking water.[23]

Rivers usually needed to be forded, or, if deep, had to be crossed by ferry. A merchant, Khwājagī Khujandi, who carried cloth from Awadh to Delhi to sell, took it by the land route, and reaching the ferry-point on the Yamuna at Delhi put it on boats to unload it on the other side.[24] Apparently, not even a bridge of boats was installed on the river at Delhi.

Awadh and Delhi are both situated on major tributaries of the Ganga, but the directions of the river courses are such that boat carriage from one to the other would involve an impossibly long, round-about journey. Still, boat transport would have been very cheap between places situated on the banks of the same river or the main river course. 'Afīf tells us that 'large and broad boats ply on the Yamuna river', some able to carry 5,000 *man*s (44 metric tons) of grain, and some 7,000 *man*s (62 tons); even the smaller ones could carry 2,000 *man*s (17.6 tons) of grain.[25] A large boat of this kind was used to carry the Ashokan pillar

from Topra near the Shiwaliks down the Yamuna to Delhi: these pillars are estimated to weigh as much as 50 or 40 tons each.[26]

There is little doubt that the degree of security on the roads varied with locality and times. Balban had to carry fire and sword into the Doāb to 'open up the road to Hindustan', the term obviously meaning here the eastern territories. As a result, 'the grain-carriers (*kārvānīs*) and merchants' began to traverse the route.[27] Finally, by his further military campaigns, Balban made operative (*rawān*) the roads leading out from Delhi in all directions; and 'the fear of the highway robbers departed'.[28] Besides local rebels and marauders, the danger came also from *ṭhag*s, the notorious stranglers and robbers of later days, of whom we hear for the first time in the reign of Jalāluddīn Khaljī (1290–96). The confession of one seized at Delhi led to the apprehension of over 1,000 members of the criminal fraternity. The Sultan, in a fit of compassion, spared their lives and, loading them on boats, sent them down to Lakhnauti (Bengal).[29] Local rebellions, as the one that broke out in the Doāb under Muḥammad Tughluq, could close the roads, as Ibn Baṭṭūṭa found in the vicinity of Kol (Aligarh), where he himself fell into rebel hands.[30] In the early years of the next reign, we find 'Ainu'l Mulk, governor of Mūltān, anxious about his family and dependents' journey from Ajodhan (Pakpattan) to Mūltān, since an uprising of the Khokhars had made the road unsafe.[31] Against these known facts of disturbance and crime, one has to keep in mind the silence of persons like Shaikh Naṣīru'ddīn, who travelled many times between Awadh and Delhi, but, while noting the time each journey took (40 days, one way), makes no mention of any dangers on the way.[32] Ibn Baṭṭūṭa, besides his brush with the Kol rebels, speaks of only one other encounter on a different journey on the Mūltān–Ajodhan road with a party of 80 'pagans' on foot led by two horsemen.[33] Otherwise he seems to have travelled all over India, on land at least, in fair safety.

MEANS OF COMMUNICATION

The government maintained its means of communications through establishing two distinct systems, one based on horses (*ulāgh* or *ulāq*), the other on human relay runners (*dhāwa*). Stations with relay horses kept ready were established on the main roads at each day's journey (*manzil*), or at four *mīl*s or *kuroh*s (12 km). Official messengers changed horses at these posts and so could ride very fast, changing horse as each mount tired. *Dhāwa* was the designation given to posts with runners established at every quarter or third or a half of a *kuroh* (0.75 or 1.00 or 1.5 km), each runner giving at these posts the letters he carried to the next one. This is the burden of the statements made by Baranī and Ibn Baṭṭūṭa.[34] Yaḥyā Sirhindī says that some land was set apart at each *kuroh* (3 km), out of which the *dhāwa* established there could be maintained, all along the road from Delhi to Devagiri.[35] Greatly impressed with these arrangements, Ibn Baṭṭūṭa says that although Sind was 50 days' journey distant from Delhi, its officials' reports to the Sultan at Delhi could reach him within just five days.[36] Besides messages, some goods, like the Sultan's drinking water and even prisoners and messengers themselves, were also carried by the *dhāwa* relays.[37]

These modes of communications were not open to the public; however, their functioning was important not only for the administration, but also for public *morale*. Breakdowns in them caused general consternation wherever they occurred, such as under Ghiyaṣuddīn

Tughluq (1320–24), when rebellion within the army sent against Warangal led to the 'complete suspension of communication by *ulāgh* and *dhāwa*' between the army and Delhi; or under Muḥammad Tughluq, when, owing to famine, the *dhāwa*s between Dhar and Delhi were 'totally' abandoned.[38]

How the government's ability to despatch letters and communications over long distances could be beneficial for ensuring security for merchants is borne upon us by an anecdote told of Khwājagī Khujandī, the merchant of Awadh, whom we have already encountered more than once. His money was stolen at Delhi by his slave who ran away with it. The slave was caught at Kara in an ale-house. Upon his confession, the officials there sent off a letter to Awadh, where Khwājagī Khujandī, walking about in the bazaar, found a man crying out his name and asking for the way to his house. In the letter that the man now handed over to him, the merchant was asked to come to Kara with two witnesses, and take away his slave and his money, such of it as was still left.[39]

It is possible that merchants and ordinary people used services of hired messengers, but there are no statements in our texts to show how these arrangements were made.

OCEANIC NAVIGATION

The most remarkable fact about navigation in the Indian Ocean in the centuries we are dealing with was the appearance and, then, the dominance, of large Chinese ships known as *jank*s (whence 'junks' in English). As early as 1154, while writing in far-off Sicily, Idrisi reported that Chinese vessels called at the port of Baruch in Gujarat.[40] Early in the fourteenth century, both the Il-khānid historian Waṣṣāf and his celebrated contemporary Rashīdu'ddīn mention 'large vessels from China', called *jank*s, that called on the ports of Ma'bar (*rect.* Malabar), 'from Kolam (Quilon) to Halāwar (Honavar)'.[41]

But it is from Marco Polo, voyaging on these junks in Indian waters in the early 1290s, and from Ibn Baṭṭūṭa, doing so some 55 years later, that we learn not only about these ships' dominant presence in the eastern sector of the Arabian Sea and all the seas further eastward, but also obtain outstandingly detailed descriptions of them. The very first thing that impressed both travellers was the sheer size of the junks. This is confirmed by the remains of a Chinese ship, sunk in 1281 off the Japanese coast: its length is over 70 metres, and its wood-and-stone anchor has the weight of over a ton.[42] The junks were built of fir-timber, the planks fastened together with iron nails. According to Ibn Baṭṭūṭa, each vessel was built up by first constructing two walls of wood, and then joining them together by baulks of wood, to constitute largely the underwater portion of the ship. Over the baulks was laid the main deck. While Marco Polo speaks of one deck only, Ibn Baṭṭūṭa says that four decks were provided. Both tell us that a junk had numerous cabins (Polo says around 50 or 60), with ample accommodation for each passenger and his family and cargo. Polo says each ship had space for '5,000 or 6,000 baskets of pepper', and carried 200 or 300 mariners. Ibn Baṭṭūṭa in his account speaks of 600 sailors and 400 men-at-arms, which seems exaggerated. The planks were not pitched, says Polo, but daubed with a mixture of lime and hemp, which was effective enough. A junk, he adds, had one rudder, but four to six sails. Ibn Baṭṭūṭa says the sails, 'made of bamboo rods, plaited like mats', numbered between 3 to 12. The junks were provided with broad oars or sweeps, requiring teams of men to work them. Both our informants say

that each junk was accompanied by two or three smaller vessels, to help tow it when needed.[43]

Among the Indian ports that the Chinese junks frequented, Ibn Baṭṭūṭa mentions Hili (Eli), Fandarenā (Panderani), Qālīqūṭ (Calicut) and Kollam (Quilon) on the western coast and Sonargāon in Bengal.[44] When Ibn Baṭṭūṭa arrived at Calicut, which he held to be one of the greatest ports of the world, he found as many as 13 Chinese ships at anchor there.[45]

Ground was thus laid for the great voyages of the Chinese flotillas in the Indian Ocean under Zheng He in the fourteenth century. Beginning with 1405 and closing with 1433, as many as seven voyages were organized by the Ming government of China, with Malabar furnishing the main ports of call; regions from Bengal to eastern Africa were visited, with a surprisingly large number of ships being involved in each voyage.[46] However, for reasons still not clear, the Chinese government embarked on a policy of discouragement of Chinese navigation after 1433, and Chinese junks seem to have largely withdrawn from Indian waters before the Portuguese arrived, spearheaded by Vasco da Gama's fleet in 1498.[47] Still, merchants in Bengal early in the sixteenth century still used, for far-flung oceanic voyages, ships 'from China, which they call *junco*s, which are of great size and carry great cargoes'.[48]

The question that should be asked is whether the presence of the Chinese junks in such strength for two or three centuries exercised any influence over Indian ship-building. Marco Polo in the 1590s found the locally built ships voyaging between Hormuz on the Persian Gulf and south Indian ports to be 'wretched affairs', built of planks of wood without any iron nails or fastenings, but stitched or tied together by coconut fibre. They were not pitched, but rubbed with fish oil. They had a single mast and sail and one rudder. There was not even a deck, but only covers laid over the cargo that was put in the bottom.[49] Ibn Baṭṭūṭa agrees with Marco Polo that ships built in India did not contain iron nails, and gives as the reason for this the belief that ships with planks bound with ropes of coconut fibre withstood the shock of collision with rocks much better than ships using iron nails.[50] Writing of his experiences in the Indian seas in the 1490s, Santo Stefano still found that the ships had their planks fastened together with cords; and in 1498, the vessel he was on, sailing from Malacca to Cambay, sank because it was without a deck, and the water collected in its bottom in a heavy storm could not be baled out.[51] Barbosa, writing in 1516, spoke of the large 'keeled ships' built by 'foreign Moors' at Calicut previous to the arrival of the Portuguese, telling us that 'these ships were built without any nails, but the whole of the sheathing was strewn with thread'. He confirmed Stefano by stating that 'all upper works differed much' from the European fashion, since the vessels 'had no decks'.[52]

On the other hand, Nicoló Conti, who voyaged widely in the Indian seas during 1419–44, gave a fairly favourable description of these ships. Some of them, he says, were 'much larger than ours, capable of containing two thousand butts and with five sails and as many masts'. The lower part of a ship was constructed with three planks for reinforcement; and 'some ships are so built in compartments as to allow them to remain afloat even if a part of their structure got wrecked'.[53] Obviously, the design of Chinese junks was at last exercising some influence on Indian ship-builders.

Some particulars are also furnished about who owned the ships. Ibn Baṭṭūṭa and his party embarked on three ships owned by Bohra merchants of Cambay (Khambhāt), the smallest one being fitted with 60 oars. The owner of the larger ship owned six vessels in all.[54] In Calicut, a famous shipmaster (*nākhuda*), Miṣqāl, owned a large number of ships which

voyaged to China, Yemen and Iran, besides (other ports in) India.[55] In Quilon, local merchants called Ṣūlī (Chūlī), presumably the Chettiar, were individually rich enough to buy whole vessels with their cargoes and load them with their own.[56] Ibn Baṭṭūṭa also tells us that the ruler of Jurfattan (Kannur) in Malabar possessed ships which traded with Persia, Oman and Yemen.[57] The ruler of Sri Lanka is said to have 100 vessels trading with Ma'bar (Tamil Nadu), while Ibn Baṭṭūṭa saw eight ships of the Sultan of Ma'bar in a Sri Lankan harbour on their way to Yemen.[58] Early in the sixteenth century, Barbosa (1516) does not mention any ships owned by rulers, but says that Muslim ('Moor') merchants, both foreign and native, as well as some Hindu ('Heathen') merchants along the Western coast owned both great and small ships.[59] In Coromandel, he speaks of native Muslims as ship-owners, while in Bengal, he tells us, 'Arabs, Persians, Abexis (Africans), Indians' owned 'great ships', built after both the Arabian Sea-type ('Meca') and Chinese-style junks.[60]

Neither Marco Polo nor Ibn Baṭṭūṭa refers to the use of the magnetic compass on either Chinese or Indian ships, and its use by navigators in the Indian seas is specifically denied by Nicoló Conti, who voyaged widely over these seas during 1419–44.[61] This is rather strange, for in a text written as early as 1119, Zhu Yu referred to the use of the compass by Chinese sailors; and a similar statement is made by Wu Zimu in 1275.[62] The earliest reference in Persian to this instrument is in the *Jāwāmi'u'l Hikāyāt* of 'Aufī, who wrote this work at the court of Iltutmish at Delhi, *c*. 1231. He tells us of sailors finding their way by using a magnetized iron shaped like a fish, though he makes a silly slip in claiming that the needle points towards the *qibla* (direction of Mecca)![63] In an Arabic work, *Kunz al-Tijār*, written by Bailak al-Qabayaqī (d. 1282), we are told that the author had seen the floating compass needle in the Mediterranean in 1242, while the compass that was in use in 'the Indian seas' had the form of a fish-shaped iron leaf pointing south–north.[64] An exceptionally clear description of the use of the fish-shaped magnetic compass in use in 'the Indian seas' comes from Maqrīzī (d. 1441–42); he points out that once the south–north direction was determined (the fish-front pointing south, its tail pointing north), all the other compass directions were naturally established as well.[65] It is most likely that Indian and other Arabian Sea navigators picked up the instrument from visiting Chinese ships, and the navigational use of it then spread to the Mediterranean, where its shape subsequently underwent improvements.[66] In the Indian Ocean too there were developments, for in 1489–90 the famous navigator Ibn Mājid describes the use of the compass as well as compass cards.[67]

The beginning of the employment of iron in Indian ship-construction probably belongs to the sixteenth century. We have seen that it was not in use even by the end of the fifteenth century. But when in 1594 Akbar constructed a large sea-going ship at Lahore (to be sent downriver to the sea), about 11.5 tons of iron were used up to nail together 2,936 planks of *sal* and pine wood.[68] Clearly, there was no longer any prejudice against the use of iron in ship-building. Indian ship-builders apparently also now copied the size and shape of the Chinese junks. Of these large Indian 'junks', the size, measurements and tonnage were recorded when these were temporarily seized by the English in 1612 off Aden and the Red Sea ports.[69]

A few words may be said about the state of security on the high seas. Marco Polo says that nearly 100 pirate ships sailed out from the Malabar and Gujarat coasts every year in fleets of 20 or 30, the pirates taking their wives and children along with them. They would plunder and seize merchant vessels, but let go the persons found aboard those ships. This

meant that merchants had to travel in large, well-armed vessels.[70] Ibn Baṭṭūṭa corroborates what Marco Polo tells us, alleging that Abyssinian men were employed to go aboard ships in order to deter 'Hindu and infidel pirates'.[71] A ship on which he himself was travelling on a voyage from Quilon to Honavar was attacked by 'infidels' in 12 vessels. They seized the belongings of all the passengers but allowed them to disembark on the coast.[72]

Some ships also suffered from local practices. Thus, anything found in a ship wrecked on the coast went to the treasury of the local ruler, except at Calicut, where the owners were allowed to claim back their goods from the wrecks.[73]

NOTES AND REFERENCES

1. The *kuroh* consisted of 5,000 *gaz*, and we have seen that a *gaz* in Fīroz Tughluq's time measured 0.6 metre, so that a *kuroh* was equal to 3 kilometres.
2. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 135–36. The word *sutūr* is used for any beast of burden, but here probably means (a seat on) a camel. Shaikh Naṣīru'ddīn in Qalandar, *Khairu'l Majālis*, pp. 259, 60, describes his camel (*ushtar*, dromedary) as a *sutūr* as well.
3. Sijzī, *Fawā'idu'l Fuwād*, p. 372.
4. Al-Idrīsī, *Nuzhat al-Mushtāq fi Ikhtarāqu'l Āfāq*, pp. 259–60.
5. *Khairu'l Majālis*, pp. 259–60.
6. Prakash, *Khajuraho*, Fig. 50.
7. J.H. Marshall and Daya Ram Sahani, 'Excavations at Mandor', in ASI *Annual Report*, *1909–10*, pp. 1909–10, and Plate XLIVa. The sculptured camel-drawn 'chariot' looks very similar to the camel-cart till recently in use in north-western India, and only now becoming rare.
8. See Ibn Baṭṭūṭa, *Riḥla*, pp. 506–7, tr. Gibb, III, p. 740.
9. Amīr Khwurd, *Siyaru'l Auliyā*, p. 277.
10. Ibn Baṭṭūṭa, *Riḥla*, p. 517, tr. Gibb, III, p. 753.
11. Qalandar, *Khairu'l Majālis*, p. 241.
12. Ibn Baṭṭūṭa, *Riḥla*, pp. 526–27, tr. Gibb, III, pp. 763–64. The weight of the *man* (8.803 kg) has been worked out from coin-weights and Ṭhakkura Pherū's scales.
13. Cf. Irfan Habib, 'Merchant Communities in Precolonial India', in Tracy, *Rise of Merchant Empires*, pp. 373–74. According to Mughal-period evidence, a bullock in the Banjāra's herds could carry a load of 265 lb (120 kg) or more (p. 376), so that the weight derived for an ox-load from Ibn Baṭṭūṭa's statements seems to be on the lower side.
14. Prasad, *Lekhapaddhati*, p. 85.
15. Ibn Baṭṭūṭa, *Riḥla*, p. 517, tr. Gibb, III, p. 753.
16. Amīr Khwurd, *Siyaru'l Auliyā*, p. 283.
17. Ibn Baṭṭūṭa, *Riḥla*, p. 527, tr. Gibb, III, p. 763.
18. Idrīsī, *Nuzhat al-Mushtāq fi Ikhtarāqu'l Āfāq*, p. 58.
19. Prasad, *Lekhapaddhati*, pp. 67, 87.
20. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, 1:436–37.
21. Ibn Baṭṭūṭa, *Riḥla*, p. 546, tr. Husain, p. 167 (the translation is inaccurate here).
22. Yaḥyā, *Tārīkh-i Mubārakshāhī*, p. 99.
23. Ibn Baṭṭūṭa, *Riḥla*, p. 557, tr. Husain, pp. 181–82.
24. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 183.
25. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 310.
26. See the detailed account, with diagrams of the pillar as it is loaded on, and then lifted off, the boat, in *Sīrat-i Fīrozshāhī*, pp. 189, 191–194.
27. Baranī, *Tārīkh-i Fīrozshāhī*, p. 57.
28. Ibid., p. 59.

29. Ibid., p. 189.
30. Ibn Baṭṭūṭa, *Riḥla*, pp. 532–38, tr. Gibb-Beckingham, IV, pp. 768–82.
31. Māhrū, *Inshā'-i Māhrū*, p. 168.
32. Ḥamīd Qalandar, *Khairu'l Majālis*, pp. 259–60, for reference to the 40-day journey.
33. Ibn Baṭṭūṭa, *Riḥla*, p. 410, tr. Gibb, III, pp. 612–13.
34. See Baranī, *Tārīkh-i Fīrozshāhī*, pp. 330–31, for the arrangements made under 'Alā'uddīn Khaljī; and Ibn Baṭṭūṭa, *Riḥla*, pp. 394–95, tr. Gibb, III, pp. 594–95, for the arrangements he witnessed under Muḥammad Tughluq. See also Al-'Umarī, *Masālik al-Absār*, pp. 58–59, tr. Spies, pp. 53–54, where it is stated that Indian post-stations (*makān*) were placed at four bow-shots or less from each other, a distance shorter than that maintained between post-stations in Egypt and Syria. *Ulāgh* or *ulāq* is a Persian word, *dhāwa* an Indian one. The term *ḍāk-chaukī* came into use only in Mughal times (cf. Mahmud Khan Sherani, *Pirthī Rāj Rāsā*, in Urdu, pp. 170–71).
35. Yaḥyā, *Tārīkh-i Mubārakshāhī*, p. 98.
36. Ibn Baṭṭūṭa, *Riḥla*, p. 594, tr. Gibb, III, p. 594.
37. For transporting drinking water and prisoners, see Ibn Baṭṭūṭa, *Riḥla*, p. 395, tr. Gibb, III, pp. 594–95; and for messengers, see Yaḥyā, *Tārīkh-i Mubārakshāhī*, pp. 98–99. The persons carried were put on a cot (*khaṭ* in *Tārīkh-i Mubārakshāhī*), with the cot bearers changing at each *dhāwa*.
38. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 447–48, 481–82.
39. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 184.
40. Idrīsī, *Nuzhat al-Mushtāq fi Ikhtarāqu'l Āfāq*, p. 57.
41. 'Waṣṣaf', *Tārikh-i Waṣṣāf*, p. 301; Rashīdu'ddīn, *Jāmi'u't Tawārīkh*, portion translated in Elliot and Dowson, *History of India*, p. 69. The litho. edn of Waṣṣāf's work puts in dots to make 'Halāvar' read 'Nīlāwar'.
42. *Archaeology*, 56(1), 2003, p. 37. This Chinese ship is said to be 'twice as big as contemporary European ones'. Marco Polo, *Ser Marco Polo*, III, p. 386, speaks of the 'huge wooden anchors' of the Chinese ships, fit to 'hold in all weather', when they called at the ports of Malabar.
43. Marco Polo, *Ser Marco Polo*, II, pp. 249–51; and Ibn Baṭṭūṭa, *Riḥla*, pp. 564–66, tr. Gibb-Beckingham, IV, pp. 813–14.
44. Ibn Baṭṭūṭa, *Riḥla*, pp. 561, 563–64, 615, tr. Husain, pp. 185, 188–189, 241. For Chinese ships anchoring at Eli, see also Marco Polo, *Ser Marco Polo*, II, p. 386.
45. Ibn Baṭṭūṭa, *Riḥla*, pp. 20, 564, tr. Gibb, I, p. 19; tr. Husain, p. 189.
46. See the table in Ray, *Trade and Diplomacy in India–China Relations*, pp. 37–44. See also Needham, *Science and Civilisation*, IV(3), pp. 487–94.
47. Ibid., pp. 524–28. It is significant that when 'Abdu'r Razzāq, the author of *Maṭla'u's Sa'dain*, visited Calicut in 1442–43, he saw ships calling on it from Zerbād (South-east Asia) besides Arabian-Sea countries, but he did not apparently observe any Chinese junks. Yet he tells us that the sailors of Calicut were then called *Chīnī bachchagān,* 'the off-spring of the Chinese' ('Journey of Abd-er-Razzak' in Major, *India in the Fifteenth Century*, pp. 13, 19; also translated in Elliot and Dowson, *History of India*, IV, pp. 98, 103).
48. Barbosa, *Book of Duarte Barbosa*, II, pp. 141–45. Barbosa mentions 'juncos' as calling on the part of Pegu and Malacca (in the latter case, coming from Java), and being the vessels Chinese mariners sailed in. Assembling different pieces of his description, it transpires that a junk had very thick timber, capable of bearing up to three or four layers of new planks; it had upto four masts; its sails were made of mats; and its cables and rigging were made out of cane (rattan) (II, pp. 153, 172–74, 214).
49. Marco Polo, *Ser Marco Polo*, I, p. 108.
50. Baṭṭūṭa, *Riḥla*, p. 576, tr. Husain, p. 201.
51. 'Stefano' in Major, *India in the Fifteenth Century*, pp. 3–4, 8–9.
52. Barbosa, *Book of Duarte Barbosa*, II, p. 76.
53. 'Travels of Nicolo Conti' in Major, *India in the Fifteenth Century*, p. 27. According to a quotation of 1443 in *OED*, *butt*, a butt, as cask of wine, contained 36 gallons, that is, much less than its later standard volume of 108 to 140 gallons.
54. Ibn Baṭṭūṭa, *Riḥla*, pp. 552–53, tr. Husain, pp. 176.

55. Ibid., p. 564, tr. Husain, p. 189.
56. Ibid., p. 568, tr. Husain, p. 193.
57. Ibid., p. 562, tr. Husain, p. 186.
58. Ibid., p. 594; tr. Husain, p. 217.
59. Barbosa, *Book of Duarte Barbosa*, I, p. 146 (Rander near Surat); and II, p. 76 (Calicut), p. 80 (Cananor, Dharmapatan), p. 87 (Chaliyam, S. of Calicut), p. 88 (Ponnani), p. 93 (Cochin), p. 97 (Quilon).
60. Ibid., II, p. 126 (Coromandel), pp. 138–45 (Bengal).
61. 'Travels of Nicolo Conti' in Major, *India in the Fifteenth Century*, p. 27.
62. Needham, *Science and Civilisation in China*, IV(1), pp. 279–81; Lin Winzhao, 'Magnetism and the Compass' in Mao Yisheng, *Ancient China's Technology and Science*.
63. The text of the passage relating to the magnetic compass is reproduced from a manuscript in Sayyid Sulaiman Nadvi, *Arbon kī Jahazrānī*, p. 128. Nadvi points out that 'Aufī had once travelled by sea to Cambay. He first took service with Qubācha (d. 1228), the ruler of Multān and Sind, and then with Iltutmish (d. 1236) at Delhi, and enjoyed the patronage of his vizier Niẓāmu'l Mulk Junaidī when the *Jawāmi'u'l Ḥikāyāt* was completed. Surely it must be a slip when Needham does not still regard Aufī's statements as constituting an 'Indian reference' to the magnetic compass (Needham, *Science and Civilisation in China*, IV(1), p. 247).
64. Cf. Needham, *Science and Civilisation in China*, IV(1), p. 247.
65. Passage reproduced from Maqrīzī's *Khuṭūṭ Miṣr*, by Sayyid Sulaiman Nadvi, *Arbon kī Jahazrānī*, pp. 129–31 (where an Urdu translation is also provided).
66. Cf. Barbara M. Keutz, 'Mediterranean Contributions to the Medieval Mariner's Compass', *Technology and Culture*, 14(3), 1973, pp. 367–70.
67. Ibn Mājid, *Arab Navigation*, pp. 73–76, 163, 192, 290–98.
68. Abū'l Faẓl, *Akbarnāma*, pp. 651–52. Cf. Irfan Habib, 'Akbar and Technology', in Habib, *Akbar and His India*, pp. 144–45. Yet in 1606–07, Pyrard de Laval noted that large Indian ships still used less iron than was put in Portuguese carracks (*Voyage*, II, p. 181).
69. See esp. the reports of Nicholas Downton and John Saris, in Purchas, *Purchas His Pilgrimes*, III, pp. 281–91, 396–400.
70. Marco Polo, *Ser Marco Polo*, II, 389.
71. Ibn Baṭṭūṭa, *Riḥla*, pp. 552–53, tr. Husain, p. 176.
72. Ibid., pp. 608–09, tr. Husain, p. 232.
73. Ibid., p. 567, tr. Husain, p. 192. At Calicut the ruler himself came with his officers to prevent the wreckages from being plundered and ensure that the owners reclaimed their effects. See also 'Abdu'r Razzāq, *Maṭla'u's Sa'dain* (1442–43), translated in Major, *India in the Fifteenth Century*, p. 14 and in Elliot and Dowson, *History of India*, IV, p. 99, where Calicut is again described as the sole port on the Malabar coast where the plunder of ships forced to seek its harbour, unscheduled, was not allowed.

CHAPTER 13

Towns and Trade

Irfan Habib

CITIES AND TOWNS

In pre-modern times, the size and number of cities and towns offer a generally reliable index of the extent of trade and commerce pursued within a country. No counts of population of any Indian town, if ever undertaken, survive from the centuries we are dealing with. By and large we must depend on contemporary descriptions and extant archaeological remains to have an impression of their size.

Most of the detailed descriptions from the thirteenth, fourteenth and fifteenth centuries relate to Delhi, the capital city. On their basis, M. Athar Ali has already given us a competent survey of how Delhi expanded (and retreated) during these centuries.[1] Ibn Baṭṭūṭa, who lived in Delhi during the late 1330s and early 1340s, described it as 'the largest city in India, nay the largest of all the cities of Islam in the east'—presumably, east of Egypt; and he also speaks of its 'vast extent . . . made up of four neighbouring and contiguous towns'.[2] Elsewhere he calls it 'one of the greatest cities of the world'.[3] Ibn Baṭṭūṭa was a traveller who had seen many cities like Cairo and Constantinople, and his impressions of Delhi therefore deserve credence. His statements are all the more remarkable when we consider, as he himself notes, that the population of Delhi had been depleted before his arrival by the Sultan's transfer of capital to Daulatābād and by a severe famine. Extant physical remains partly support him. Mainly built just before Ibn Baṭṭūṭa's arrival, Tughlaqābād, one of the four cities comprising Delhi, contained a walled area of nearly two square kilometres that were, in a large part, fairly densely populated.[4] Even under Fīroz Tughluq, when the population began to shift from Qutb Delhi towards the Yamuna, the inhabited part of the new capital city of Fīrozābād extended along the river from Indpat (present-day Purana Qila) up to Kaushik-i Shikār, where Fīroz Tughluq set up an Ashokan pillar that still stands, the distance being set down as five *kuroh*s or 15 kilometres.[5] These data cannot naturally be converted into precise population estimates. It would, however, be surprising if the population of Delhi in its heyday in the fourteenth century was much less than 300,000, the number of inhabitants estimated for Justinian's Constantinople.[6]

By the mid-fourteenth century, Devagiri, now renamed Daulatābād, had gained in size to be next to Delhi. Ibn Baṭṭūṭa describes it as 'the large and great city, rivalling the capital Delhi'.[7] For the relative sizes of other towns, we do not have even such semi-rhetorical statements. Of Lakhnauti (the present Gaur), the provincial capital of Bengal, we are told that its 'great bazaar' was over one *kuroh* (3 km) in length in Balban's time.[8] Ibn Baṭṭūṭa did not visit Lakhnauti, but he describes Satgāon ('Sudkāwan'), a port in the Hugli basin, as 'a very large city' (*madīna 'aẓīma*),[9] a description he has reserved for only a few cities in India: besides Daulatābād, he uses this epithet for chanderi in central India.[10] Other notable towns he simply styles 'large' (*madīna kabīra*), such as Uchh, Sarsatī (Sirsa), Kanauj, Gwalior and Gandhār (on the Gulf of Cambay).[11] Down the Western Coast, he designates Mangalore, Eli ('Hili'), Pudupattana ('Budfattan') and Panderani ('Fandaraina'), and then Madura in Tamilnadu, as large (*kabīra*) towns.[12] His general descriptions of the great ports of Calicut and Quilon, however,[13] leave us in no doubt that these were much larger cities than any of the designated 'large' ones, but he makes no direct statement to this effect.

Ibn Baṭṭūṭa's descriptions of Indian towns as it stands gives us an impression of a fairly well-urbanized land. One must remember too that, first, he only visited parts of India, and second, he did not describe all the cities he visited. Thus he did not visit Awadh (Ayodhya); and, although he stayed for quite some time at Multān, he offers no comment on its size.[14]

After Ibn Baṭṭūṭa's memorable travels, Delhi was savagely destroyed by Timūr in his raid of 1397–99.[15] Delhi did not thereafter really recover until Shāhjahān (1628–58) built his capital city of Shāhjahānābād there.

But some new cities thrived in the fifteenth century. Jaunpur, founded by Fīroz Tughluq, turned into a 'great city', partly perhaps at the expense of Awadh.[16] Ahmadabad was founded in 1413 as the capital of the new provincial kingdom of Gujarat, and rose to be a notable city.[17] Vijayanagara, founded about the mid-fourteenth century, became in the course of the next century probably the largest city in the peninsula; but further particulars about it are best left to Part 4 of the book, where the economy of Vijayanagara is separately discussed.

TOWNS AND THE NETWORKS OF COMMERCE

Ever since the Urban Revolution at the end of Prehistory (as postulated by V. Gordon Childe), towns have been the principal emporia and driving engines of commerce. Comprising mainly non-agricultural populations, towns must obtain their foodstuffs and raw materials (cotton, wool, timber) and fuel (firewood, cow dung) from the countryside. The need for these goods provides the basis of the bulk of local trade. The form of this trade, and the economic activity it calls for in the towns, are determined largely by the given agrarian structure of the time. In case the agricultural surplus is collected by a class of potentates, who thereby acquire much of the surplus in kind or money, the towns are essentially called upon to supply such potentates with craft products and services of different kinds in return for part of the surplus held by them. Where the aristocratic buyers have stocks of agricultural products, they may directly part with them; but where they hold claims to the surplus in the form of money (in case the cash nexus prevails), the money is passed on to the urban population in return for goods and services supplied to the potentates and their dependents. The townspeople may, then, buy the rural products they need from the primary producers directly, or through commercial intermediaries. Trade of this kind may be described as mainly tax- or rent-induced trade, but

one should not forget to note that it becomes brisk only when demand has been created for agricultural produce by a growth of the towns.[18]

In Baranī's account of the agrarian and price-control measures of Sultan 'Alā'uddīn Khaljī (1296–1316), the mode of tax extraction in kind is described in one passage. It tells us that the entire land tax (*kharāj*) was taken in kind from the peasants in areas under direct royal administration (*khāliṣa*) within the Doāb, while a half of the land tax was so taken in Shahr-i Nau (Chhā'in, near Ranthambor, eastern Rajasthan) and the surrounding area; the grain thus collected was brought to Delhi by the grain-carriers (*kārvānīs*) to fill the Sultan's granaries there. The moment a natural scarcity threatened, grain was brought out from these granaries and sold to the public to keep the prices stable at the prescribed rates.[19] Over two decades later, under Muḥammad Tughluq (1324–51), Ibn Baṭṭūṭa at Delhi was given by the Vizier a draft for 30,000 *man*s (2,641 quintals) of grain on behalf of the tax collector of the district (*hazār*) of Amroha; the latter in turn distributed the demand among various villages, presumably against the tax due; and the requisite grain was thereupon loaded on oxen to be transported to Delhi.[20] Clearly, the state still maintained its system of control over grain supply to Delhi, through collecting it in kind.[21]

But the prevailing mode, even under 'Alā'uddīn Khaljī, seems to have been that of realization of tax in money, not in kind. Thus Baranī in his account of that Sultan's price control measures tells us that the revenue collectors in the country of the Doāb were required to demand immediate payment (in the form of money) of the land tax so insistently as to force the peasants to sell their grain at low rates to the grain-carriers (*kārvānī*s), who could then bring it to Delhi and sell it at the prescribed rates there.[22] In fact, by another contemporary report, grain was brought into the city by grain-carriers, here called *nāyak*s, who did so by carrying the grain on the backs of 10,000 or 20,000 oxen. The Sultan gave them money out of the treasury and even met their household expenses to ensure regularity of supplies as well as to enable the grain-carriers to sell grain at the rate fixed by the Sultan.[23] Baranī too held the regular transport of grain to the city of Delhi to be crucial for holding down prices, but believed that this was achieved by forcing the chiefs of the *kārvānī*s to become sureties for each other, and to bring their families and cattle and settle them on the banks of the Yamuna, so as to be under the constant control of the authorities.[24] In normal times, one is led to suppose, the grain carriers purchased grain in the villages out of their own resources and sold it in the towns on the principle of what the market could bear.

A city could attract agricultural produce from a large area depending upon costs of transport and the size of its market. As we have seen, Delhi drew its grain supplies from the Doāb and eastern Rajasthan, and from the district of Amroha in the Trans-Ganga tract. Good-quality rice used to be exported from Sarsatī (Sirsa) in Haryana to Delhi.[25] Wheat, rice and sugar were imported from Kara and Manikpur, towns situated on opposite banks of the Ganga, at 18 days' journey from Delhi;[26] sugar was also brought from Kanauj, where it was produced in abundance.[27] Indeed, even the barren tracts in Haryana were commercially linked to Delhi. Before Fīroz Tughluq built his canals, only inferior grains were cultivated there, and merchants took 'wheat, gram and candied sugar' from the villages and environs of Delhi to those areas, selling them at high prices. But once cultivation of these crops began in these tracts owing to irrigation from the canals, these very items of produce began to be exported from them to other places, presumably including Delhi.[28]

One should recognize, however, that even between the city and the villages around it, not all trade was tax-induced trade. Urban and semi-urban settlements could have supplied

ironware, cloth, and some other craft products to villages and received agricultural products in exchange. In the trade between towns, one may expect that craft products of one town would exchange for those of another, although agricultural products re-exported by towns must also have figured on either or both sides of the exchange. In the case of Delhi, the tribute to the capital expected from provinces might also have taken the form of products transported thence to Delhi. Even if the tribute was fixed in the form of money and received in Delhi in this form, the cash would have been best obtained by the sale of the products of the provinces.

We have a few hints about how extensive the area with which Delhi maintained its commercial ties was, based on the traffic in the more expensive products. Wine distilled (from sugarcane juice presumably), after being kept for two or three years, used to be brought from Kol (modern Aligarh) and Meerut to Delhi.[29] Betel leaves for the Delhi market were brought from as far as Dhar in Malwa, a matter of 24 days' journey.[30] Fine fabrics, manufactured at Kara and Manikpur, were sent to the Delhi market.[31] Coarse cloth, known as *pat* and manufactured at Awadh (Ayodhya), was carried regularly to Delhi by a prominent merchant of Awadh. It was alleged that he could have made greater profit if he had traded in finer cloth.[32] Baranī, in the course of his description of 'Alā'u'ddīn Khaljī's price measures, mentions the sale at Delhi of silken (*khaz*) cloth of Gola (in modern Rohilkhand), quality lining-cloth (*astar-i la'l*) from Nagaur, and the *bhairon* (a kind of muslin) of Devagiri.[33]

The kind of information that we obtain of the extensive commercial network centred on Delhi in the fourteenth century is not available to us for other towns. But one can imagine each town having its trading zone for different commodities, overlapping with those of others. Thus, from a letter of 'Ainu'l Mulk Māhrū, *c.* 1360, we learn that Multan received its supplies of sugar from Lahore ('Lohor') and even Delhi, and of ghee from Sarsatī (Sirsa) and the (Lakhi?) Jungle (forested tract along river Sutlej).[34]

Another sector of trade on which we have some substantive information is that carried by vessels along the western coast from Sind and Gujarat to Kerala. Both Marco Polo and Ibn Baṭṭūṭa have much to say, as we have seen in the preceding chapter, on the shipping involved in this trade. But it is from Duarte Barbosa, whose observations were made at the end of our period, 1500–16, that we obtain the clearest information about the trade along the coast, before the Portuguese disrupted or distorted its entire rhythm.

Ships from Malabar or Kerala called at the main port in Sind ('Diul') with rice, sugar, spices (pepper presumably), timber and canes, to return with cotton, cloth and horses.[35] But the major region with which Malabar maintained its trade was Gujarat. The major ports of Gujarat were (Prabhas) Pattan, Sorath (?), Mangalore, Diu and Gandhar. Gujarat exported from these ports to Malabar cotton, and silk cloth, horses, wheat, rice, indigo, opium, cornelian and other wares, and imported from the Malabar ports quantities of areca-nut, coconut, pepper, ginger and other spices, sugar (jaggery and palm sugar), cardamoms, emery, ivory and elephants, wax, iron, sandal-wood, etc.[36] The Konkan ports of Chaul and Dabul received (and partly re-exported) many of the Malabar exports mentioned above and exported their own fine cotton goods to both Malabar and Gujarat; to Malabar, in addition, they also exported wheat, other grains, rice, millet and gingelly, and from Gujarat they received varieties of fine cloth.[37]

Barbosa mentions, as we have noted, that rice and wheat were being imported by Malabar from Gujarat and Konkan. Mangalore (a port of Vijayanagara Empire in 1516) also

exported rice by ship to the Malabar ports further south. The northern limits of the pepper-producing country lay in the vicinity of Mangalore.[38] The major Malabar ports were Cananore (Kannur), Calicut, Cochin and Quilon.[39] We have already listed the main items of Malabar's trade with other parts of the coast, as well as the items of import. It is indeed singular that Kerala should have tried to meet its insufficiency in foodstuffs by importing rice and other grain by sea not only from the Konkan, but from as far as Gujarat. We, however, need to remind ourselves that the great age of prosperity of the Malabar ports was now coming to a close with the fateful arrival of the Portuguese.

URBAN TAXATION AND IMPOSTS ON TRADE

While in the case of the land tax in the Sultanate our information begins in reality only with the reign of 'Alā'uddīn Khaljī, our knowledge of taxes collected in towns and the tariffs on trade begins even later, only with the Tughluq dynasty.

As for urban taxation, we may first begin with a document relating to Uchh, the historic town near Mūltān. It lay under the jurisdiction of 'Ainu'l Mulk 'Māhrū', governor of Multān, in the early years of Fīroz Tughluq's reign. A religious divine of Uchh complained to the governor that the two agents he had sent were now collecting a tax (*muḥdaṣ*) from all people of the city, who were greatly oppressed thereby. Such a tax used to be collected when the city was prosperous. Later, the late Sultan (Muḥammad Tughluq) had remitted it entirely. (This seems to be confirmed in the case of Multān, where, according to Māhrū himself, Muḥammad Tughluq had abolished the tax on professions [*kharāj-i muḥtarifa*] along with other imposts).[40] But now, when Uchh was in an impoverished condition, how could Muslims bear this burden? As for the 25 Hindus who had shops in the town, they already had to bear 'the heavy burden' of the *jizya* (poll tax) and now had to pay this additional levy.[41]

This document confirms that Hindus of any substance in the towns were subject to the *jizya*. A general statement to this effect is made by 'Afīf, who reports that in Delhi, the lowest rate of *jizya* was 10 *ṭanka*s (a year), which was certainly not a low rate.[42] As against the *muḥdaṣ* or general levy that was imposed in Uchh, Delhi apparently had a number of cesses or taxes levied on various professions and activities. These are conveniently enumerated by Fīroz Tughluq himself and by the anonymous *Sīrat-i Fīrozshāhī*.[43] These included *jazārī* (so spelt, and explained by 'Afīf as tax on butchers, 12 *jītal*s being taken for each cow slaughtered),[44] *amīrī-i ṭarab* (tax on musicians), *gul-faroshī* (on flower sellers), *jizya-i tanbūl* (on betel-leaf sellers), *chungī-i(?) ghalla* (duty on grain sold?), *kayālī* (tax on weighmen),[45] *nīlgarī* (on indigo dyers), *māhī faroshī* (on fishmongers), *naddāfī* (on cotton-carders), *ṣabūngarī* (on soap-makers), *rīsmān-faroshī* (on rope sellers), *raughangarī* (on oilmen), *nakhwud-biryāngarī* (on hawkers of roasted gram), *tah-bāzārī* (tax on shop sites), *kūza(-o) khisht puzī* (tax on potters and brick-burners), *chhapa* (on cloth printers),[46] and *karhī* (=*gharī*, house tax); and some others, to be treated when we presently discuss the imposts on trade.

All these taxes are proclaimed as abolished by Fīroz Tughluq. Since the *Sīrat-i Fīrozshāhī*, where a practically identical list of these taxes occurs, was completed in 1370–71, the abolition must have been effected in or before that year. The taxes henceforth to be taken were to be confined to 'the tax on land, *jizya* on Hindus, *'ushūr* (tithes), *zakāt*, *tarkāt* (property of those dying intestate), a fifth of war-booty, and troves (*laqaṭāt*)', which alone were permitted

by Muslim law.[47] It will be seen that *ushūr* (formally, a tenth of produce) and *zakāt* (2.5 per cent of capital) would have been fairly heavy taxes, and it is quite probable, therefore, that the old urban levies continued simply under the new nomenclature.[48]

The taxes we have been considering up till now were those imposed on the artisans, hawkers and shop-keepers of the towns. We may now pass on to the levies imposed on local and long-distance trade.

Ibn Baṭṭūṭa tells us that when he arrived in India, he found that a tax was taken from all merchants bringing in goods at Mūltān, amounting to a quarter of the value, while on each horse seven dīnārs (gold *ṭanka*s) had to be paid. He adds that this tax was abolished by the Sultan in 1340–41, when he replaced it by *zakāt* and *'ushr*. Now, if one takes these two latter taxes to have amounted to 2.5 per cent *ad valorem* (the legal rate in case of *zakāt*) and 10 per cent (the rate for *'ushr*), the measure meant a simple halving of the older rate of 25 per cent.[49] It is not clear whether this duty was the one levied on the frontier-marts only, or was a general transit duty for inland trade as well. Even as customs duty, it was clearly on a rather high side.

The reduction in transit duties that Ibn Baṭṭūṭa mentions might be identical with the measure of abolition of a number of similar duties to which Māhrū attributes a very large loss of revenue. These levies which, according to him, 'his late Majesty' (Muḥammad Tughluq) abolished, were *manḍwa* (market tax), *tarka* (escheat), *māl-i maujūd* (tax on 'existing goods', a species of *zakāt*?), *chahār bāzār* ('four markets'?), *ẓarā'ib* (tax on coined, or 'struck', money?), *guẕarhā* (tax at ferries and fords) and *kharāj-i muḥtarifa* (tax on trades or professions). Except for the second and the last, all these exactions would seem to have been levied on goods in transit or those brought for sale. Fīroz Tughluq is said to have confirmed all these remissions.[50]

Another letter by Māhrū shows that in the early years of Fīroz Tughluq's reign, there were only two taxes that merchants taking goods to Delhi via Multān had to pay, *zakāt* and *dāngāna*. The letter suggests that there was an option to pay the duties at Delhi, but, naturally, the Mūltān authorities wished to collect the amount at that city.[51] It would seem, then, that these transit duties were supposed to be levied at one place only during a single act of transportation. Of *zakāt*, as we have already noted, the legal rate was 2.5 per cent *ad valorem*; and the connotation of *dāngāna* is helpfully explained to us by 'Afīf. When a merchant brought high-value goods (*qumāsh*) to the market (Sarāi 'Adl) at Delhi, he informs us that the *zakāt* was taken according to the legal rate (*niṣāb*). Thereafter the goods were taken to the treasury and weighed; and on each *ṭanka* weight, they charged one *dāng* (or one-fifth of the *ṭanka*). The delays involved in this procedure are said to have put merchants to great distress.[52] Apparently, then, *dāngāna* was charged according to the weight, not value, of the goods; and it must have fallen more heavily on merchants who traded in less expensive goods. 'Afīf tells us that this tax was abolished in 1375–76, and the treasury suffered an annual loss of 3,000,000 *ṭanka*s from the remission of this and some other taxes.[53]

It would thus appear that from the later years of Muḥammad Tughluq's reign and under Fīroz Tughluq, there was a tendency to encourage trade by remitting taxes and lowering tax rates. For the high rates prevailing earlier, no reason has been vouchsafed to us. Perhaps the temptation to milk the increasing volume of trade proved irresistible, until the discovery was made that such a course could hurt trade and so ultimately limit the revenue it could produce. The Sultans might also have genuinely felt that brisk commerce reflected well on their mode

of government, and that tax reductions helped to legitimize their regime in the people's eyes.[54]

MERCHANTS: SOCIAL COMPOSITION

It may be convenient to attempt a description of the merchants in the Delhi Sultanate and other regions of India on the basis, first, of a social classification, and second, by their different functional specializations.

A very visible section of the class comprised immigrant Muslim merchants, who came in pursuit of both oceanic and overland trade. Persian and Arab merchants had long settled in the ports of Gujarat and the western coast. At Somnath (Veraval), Gujarat, a shipmaster (*nākhū=nākhudā*), 'the king of kings of traders', Nuruddīn Fīroz of Hormuz, bought land, built a mosque and left a bilingual (Sanskrit and Arabic) inscription dated 1264.[55] At Khambhāt (Cambay), in the same kingdom, Muslim merchants (Khwājas) had established themselves and grown rich in trade. When early in 'Alāu'ddīn Khalji's reign the Delhi armies overran Gujarat, one of the commanders, Nuṣrat Khān, plundered their wealth and seized their slaves, among whom was the famous Malik Kāfūr.[56] Ibn Baṭṭūṭa found Muslim merchants settled in practically all the ports of Malabar.[57] They had similarly established themselves on the Coromandel Coast (Ma'bar). When the Delhi armies under Khusrau Khān occupied Ma'bar in 1318, the 'Khwājas' here fared no better than those of Cambay two decades or so earlier: Khwāja Taqi, a merchant (*bāzargān*) of immense wealth, was not only divested of all his possessions, but of his life as well.[58]

Other Muslim merchants travelled overland in caravans to different parts of India long before the Sultans' armies arrived there. The familiarity bred by such caravans enabled Muhammad Bakhtyār Khaljī's troops to masquerade as merchants (*bāzārgān*), bringing horses for sale to the Bengal ruler Lakshmaṇaseṇa's capital of Navadip.[59] Niẓāmu'ddīn in 1314 related an anecdote about Muslim merchants (*saudāgarān*) who went from Lahore ('Lahāwar') to Gujarāt (then under Chaulukya rule) just before the Mongols destroyed Lahore in 1241.[60] Other merchants settled themselves at particular places. The maternal grandfather of Shaikh Niẓāmu'ddīn, for example, migrated from Bukhara to Lahore and thence to Badaun to set himself up as a merchant there, putting his slaves to work at crafts and to conduct his trade.[61]

Much more apparently than Lahore, it was Mūltān, placed under Arab rule as early as 714,[62] that was the seat of a large mercantile community. When Baranī chose to be scornful of the mercantile antecedents of a minister of 'Alā'uddīn Khaljī, he found the words 'the son of a Multānī' (*Multānī-bachcha*) as appropriately opprobrious for him.[63] There are, however, good indications that 'Multānī' was a term also used for Hindu merchants of that city. In what is perhaps the greatest pre-modern dictionary in Persian, the *Bahār-i 'Ajam* (1739–40), it is noted that in 'Wilāyat' (India's neighbouring Islamic countries) 'a Hindu is called Multānī, for the reason that most Hindus residing in Iran are from this city (of Multan)'.[64] In 1666, Thevenot noted that the Multān province contained many 'Banians', Multān being 'their chief rendezvous for trading into Persia'.[65] This evidence is late, but Baranī himself not only pairs the 'Multānīs' with the *sāh*s (great Banya merchants—see below) twice, but also describes them as engaged in usurious pursuits, which, had they been Muslims, would certainly have

drawn special censure from him.[66] The importance that Baranī attaches to Multānīs at Delhi makes it obvious that many of them had now moved from Multān to Delhi. The famous Palam Baoli inscription in Sanskrit, dated 1276, introduces us to one such migrant. The inscription commemorates a step-well built by one Uḍḍhara, now a wealthy citizen of Delhi ('Ḍhilli'), whose father Haripāla had lived at Uchchapuri, the famous town of Uchh near Multan. Uḍḍhara was rich enough to have also built many *dharmashāla*s, or free inns, and to have obtained the title of *ṭhakkura*.[67]

It is likely, but unproven, that the Multānīs were Khatrīs, members of the well-known merchantile caste of the Punjab. It is equally likely that most Hindu merchants of Delhi were Banyas. The history of the various Banya septs can be partly reconstructed from epigraphic evidence. The Dhūsaras appear as the community to which a *vaṇik* belonged, in an inscription from Khandela in east Rajasthan, of as early a date as 807.[68] In and near Delhi have been found two early inscriptions, one (damaged) from Sonepat of 1291, and the other from Naraina of 1327, both of Rohitaka merchants who built wells; and the Sarban (Delhi) stone inscription of 1328 introduces us to another family of merchants (*vaṇija*) belonging to the Agrotaka sept. It is presumed that we have here early references to the Rohatgi and Agrawal sub-divisions of the Banyas.[69]

Besides the presence of rich Banya merchants, the Naraina and Sarban inscriptions, by giving us the genealogies of the persons praised, show that at Naraina (a quarter or suburb of Delhi), until 1327, the Rohitaka merchants' family had lived and prospered for five generations, while the Agrotaka merchants had by 1328 lived in the city of Delhi ('Ḍhilli) for four generations.[70] It is noteworthy that neither of these descriptions of the past generations refer to any displacements or troubled times at all.

For the richer Banya merchants, Baranī seems to use the word *sāh*, which was probably a variant of the Persian *shāh* (king) to begin with, and so was an honorific. It is therefore placed by him among those titles which the richer Hindus used, along with *rāi, rānā, ṭhākur, mahtā, pandit*, among others.[71] When he, however, pairs Multānīs with *sāh*s, as noted above, he must be meaning by the latter term Hindu merchants and bankers other than Multānīs. The sense of *sāh* must again be the same, when he speaks of Muslim theologians and mystics of Delhi as well as the city's 'merchants and traders, leading men, *sāhs* and *ṣarrāfs* (bankers), and Brahmans', presenting themselves before Fīroz Tughluq in 1351,[72] or when he pairs *sāh*s and *ṣarrāf*s while speaking of classes who obtained great wealth under Fīroz Tughluq.[73]

Ibn Baṭṭūṭa reads the word in the same sense when he says that the rich 'heathen' merchants of Daulatābād are called 'sāha', and they correspond to the Karīmī ('*akārim*') merchants of Egypt.[74] The Karīmī merchants worked through a kind of guild, and Ibn Baṭṭūṭa doubtless was thinking here of the caste networks of the Banya merchants of Daulatābād as representing a similar kind of mechanism.

In Gujarat Banya septs, such as Shrīmālī, Pragavate, Vayada, Oswal and Gurjara, already appear in the *Lekhapaddhati* documents; almost all creditors, debtors and sureties named in the documents belong to these septs.[75] Marco Polo (1292–95) has very commendatory words for the merchants of Gujarat, describing them as 'the best merchants in the world and the most truthful'—a judgement shared by the sufic saint Nizamuddin of Delhi. The only small piece of trouble is that Marco Polo confounds the Banyas with the Brahmans, and so calls the merchants 'Abraiaman'![76]

In the south were other castes of merchants. Ibn Baṭṭūṭa, who visited Quilon in Kerala *c.* 1345, says that its merchants, known as Ṣūlīs, possessed great wealth and bought ships to

load their own cargoes. Since he immediately makes a separate mention of Muslim merchants there, the Ṣūlīs were obviously non-Muslims.[77] The supposition that Ṣūlī here is a transcription of 'Chūlia', which from the eighteenth century onwards has been recorded as a designation of local Muslims in south India, is, therefore, questionable.[78] It would seem, on the other hand, more likely that Ṣūlī is connected with the name 'Chola' (Coromandel), and that 'Ṣūlīs' were simply merchants who had their native places in the Chola country. They are, therefore, almost certainly Chettis. Ma Huan (1433) mentions the 'Che-ti' as merchants at Quilon, who bought up high-priced products ('gem-stones, pearls and aromatic goods') in order to sell them later in the shipping season for export to different countries.[79] In 1516, Barbosa gives a much longer description of the operations of the 'Chatis' (whom he calls 'natives of Charamandel') trading in Malabar, mentioning especially their dealings in expensive goods and in money changing.[80] He returns to a short reference to them again in his account of Coromandel.[81]

There was also, according to Barbosa, a local mercantile class in Malabar called 'Biabers' (transcription of 'vyabārī', merchant), who were of high caste enough for the Nayars to 'touch them'. They dealt extensively in pepper and ginger, the great commercial products of Malabar.[82]

ORGANIZATION OF COMMERCE: MARKET, CAPITAL AND CREDIT

From a consideration of the social groups into which the merchants were divided, we may pass on to a different kind of classification, one according to their functions or lines of specialization. Amīr Khusrau, critical of the whole class, offered in 1283-84 an illustrative list of its components: the *bāzārī*, 'market-operator', stranger to honesty and faith; the *saudāgar*, trader, intent only on profit; the *bazzāz*, cloth seller, prone to lack of rectitude; the *baqqāl* (grain-merchant), *ṣarrāf* (money-changer), and *zar-gar* (goldsmith), all manipulating their scales of weights; and the *muḥtakir* (engrossar), selling rice at the rates of gold.[83]

Amīr Khusrau's list is not complete, and was not intended to be such. A major group he fails to mention was that of the rather lowly *kārvānī*s, who in later times would be known as *Banjāra*s. Their mode of carriage of grain on pack oxen has been described in the previous chapter. This made it necessary for them to adopt a semi-nomadic state of life. In order to control them, it was found necessary by 'Alāu'ddīn Khaljī to force the families of their headmen (*muqaddam*s) to settle, along with their cattle, on the banks of the Yamuna, so that the headmen, for fear of consequences to their families, might be compelled to regularly bring grain to the city of Delhi.[84] Shaikh Naṣīruddīn, recalling what he heard from a minister of the Sultan, tells us that 'Alāu'ddīn Khalji advanced much money to the *nāyak*s, or chiefs of these grain carriers, to enable them to bring the needed supplies to Delhi and sell them at official rates.[85] The *kārvānī*s must also have usually traded on their own account, which is shown by the injunction issued to revenue collectors to insist on immediate money payment of revenue by the peasants after harvest, so as to force the peasants to sell the grain at low rates to the *kārvānī*s 'by the side of the field'.[86]

There is no suggestion that the *kārvānī*s bought only from the peasants or that, on reaching the city market, they set up their own shops. At either end stood the *baqqāl*. Lexicographers note that while in Iran this word meant 'a seller of fruits like pomegranate or walnut or cheese, in India it means a grain-seller'.[87] It was obviously with this sense in

mind that Naṣīruddīn explained that the capital (*māya*) needed by a *baqqāl* for the pursuit of his profession consisted of 'some money (*māle*), a shop and commodities (*qumāsh*)'.[88] The grain merchants of Delhi must have had much capital at their command, for it was 'the *ṣarrāf*s and *baqqāl*s' of Delhi who, going forward to meet Fīroz Tughluq at Sarsatī (Sirsa) in 1351, relieved him of his financial difficulties by offering him 'some lakhs of *tankas*' in loan.[89] From the sixteenth century onwards the word *baqqāl* became the Persian synonym for Banya, since apparently it was the Banyas who monopolized the grain trade in much of northern India.[90]

Apropos merchants (*saudāgarān*) in general, Naṣīruddīn remarked that it was generally customary at Delhi for a merchant's house to have two floors, the ground floor containing the shop (*dūkān*) to carry on purchase and sale of goods, and the upper floor for keeping his women (*ḥaram*).[91] Such shops, including those of retailers, constituted the *bāzār*. Normally, any merchant could take his goods for sale to any *bāzār* or to any house, but 'Alāu'ddīn Khalji specifically restricted such freedom in Delhi and demanded that every merchant should bring his goods to the designated market, 'Sarāi 'Adl', and sell his goods (*qumāsh*) there at the prescribed rates.[92] Once 'Alāu'ddīn Khaljī's price regulations were abandoned by his successor, Quṭbuddīn Mubārak Shāh, such constraints were also removed.[93]

It was, however, naturally convenient to have distinct markets for different commodities. A person was introduced to Shaikh Naṣīru'ddīn as 'the chief man of the jewellery market (*bāzār-i jawāhir*)'. The mystic observed that one should always truthfully report the cost price; only then the profit gained would be legitimate.[94] This was a counsel of perfection, seldom to be paid heed to by hard-headed market-men, the 'bāzārīs' of Amīr Khusrau. The ideal of every *bāzārī* was allegedly achieved under Fīroz Tughluq, and that was to be 'the master of all market-commodities: he buys what he wishes, and sells what he wishes; he pays no tax; he does not render compulsory services (*begār*) or render aid in (potentates') hunts (*shikār*); a hundred or two hundred *tankas* come daily into his house, and not a *tanka* is paid out under the head of any tax'.[95]

In such a market, buyers had to look around among numerous sellers offering varied deals, and this created the ground for the emergence of middlemen such as commission agents and brokers.

Marco Polo (in the Ramusio version) held the merchants of Gujarat to be the most zealous and honest commission agents, acting on behalf of foreign merchants.[96] Baranī's opinion about the brokers (*dallāl*s) of Delhi was, however, by no means so high. Horses could never be cheap, he said, as long as 'the principal brokers in the horse trade, who are in reality the masters of the market, are not compelled to be upright by harsh and penal measures, and forced to eschew bribe-taking from both sides and (unfairly) aiding the purchaser or the seller'. They were, he says, in league with professional merchants and moneyed speculators (*kīsadār*), and he lauds 'Alāu'ddīn Khaljī's stern measures against these middlemen whereby the horse-dealers and the primary buyers of horses were enabled to deal directly with each other in the designated horse market.[97] One could argue with Baranī that as markets developed and became complex, brokers were indispensable, and Baranī himself goes on to say that under 'Alā'uddīn, the brokers continued to perform their functions, though they were prevented from indulging in price-fixing and extorting money from both buyers and sellers.[98]

Where there were men with money, like the *kīsadār*s in the horse market, there was ever the possibility of persons engrossing supplies—the *muḥtakir*s of Amīr Khusrau—in order

to sell dear. The suppression of such engrossing (*iḥtikār*) was one of the prime means adopted by Sultan ʻAlāu'ddīn to control grain prices at Delhi.[99] Early in Fīroz Tughluq's reign, 'Māhrū' describes how the engrossers (*muḥtakir*s) used to buy up ghee at Mūltān, obtaining it from outside suppliers, and then hold supply back till the price rose from seven to nine or 10 *jītal*s per *ser*. One engrosser had stored up sugar (*qand*) for some seven years. Māhrū claims that, as governor of Multan, he had begun buying directly from the suppliers and then selling the goods on the market so as to keep prices low and undo the engrossers' schemes. His letter, however, shows that there were murmurs (the truth of which he denies) that presumably as a monopolist, he underpriced the goods he purchased![100]

Whether conducted honestly, or by engrossing, or by monopolization, trade yielded much profit and added to merchant capital.[101] Naṣīruddīn recalled that in Awadh, a *bazzāz* (cloth-merchant), called upon to estimate a quarter of his capital, put it at 500 or 600 *ṭanka*s, implying a total capital of 2,000 *ṭanka*s or more:[102] this, since the coins could then only have been of silver, was certainly a large sum. We have seen above that the *ṣarrāf*s and *baqqāl*s of Delhi had been able to lend Fīroz Tughluq a sum of 'some lakhs of *tanka*s'; and Baranī says that already in Fīroz Tughluq's early years, 'the visible capital, money and goods of the merchants and traders, grain-carriers (*kārvānīs*) and *sāhs*, *ṣarrāfs*, usurers, and engrossers (*muḥtakirs*) exceeded many lakhs (in value) so far as to be in the realm of a crore of *tankas*'.[103] Such statements, though imprecise, suggest that the mercantile classes commanded an impressive amount of capital.

Trading profits were not the sole source of such capital. Usury and exploitation of the state apparatus also contributed to an enlargement of its size. One may recall here the money advanced by 'Alāu'ddīn Khaljī to grain-carriers (*nāyak*s) to bring grain to Delhi from the districts around.[104] He also advanced the sum of 20 lakhs of *ṭanka*s from his treasury to 'rich Multānīs' to enable them to bring high-value goods regularly from distant parts of the country to Delhi.[105] Such direct lending of capital from the treasury was apparently a specific feature only of the period of 'Alāu'ddīn Khaljī's price control measures. But there were other ways too in which gains could be made in normal times out of the functioning of the state apparatus.

Speaking of the times of Balban (1266–86), Baranī tells us of the propensity of nobles to live greatly beyond their means.

> The Multānīs and *sāhs* of Delhi, who have acquired such riches, have done so owing to the establishments of the old commanders and nobles of Delhi, for they took loans from the Multānīs and *sāhs* beyond all limit, paying their creditors from the revenues of their *iqtā'*s (assigned territories) not only the principal sum (of loan) but also extra rewards. Whenever a high noble (*khān*) or commander held a celebration and had great men as guests, his officials rushed to the Multānīs and Sāhs, gave them drafts (*qabẓ-hā*) drawn on themselves and obtained loans on interest.[106]

These drafts were clearly in the nature of bills.

Over 60 years later, 'Afīf drew a parallel picture. Under Fīroz Tughluq, the nobility and army were in large part paid through territorial assignment (*wajh*); others, who were designated *ghair-wajhī*, were paid from the treasury.

> The balances of claims on the treasury were met by pay-drafts (*iṭlāq*)[107] made by the King's order. When the pay-drafts of the salary-claimants (*wajh-dārān*) reached the territories (*iqṭā'āt*) a half of the trooper's salary was received there. In those days some persons, with the parties' agreement, used to purchase the pay-drafts, paying in the City a third of the stated sum (*murattab*). They received the full half of it in the *iqṭā's*; and then those buyers endorsed pay-orders from the *iqṭā's* and from this too they obtained much profit.[108]

The last sentence suggests that having encashed the drafts purchased at Delhi in the designated localities, they now discounted drafts drawn in those localities on the capital, whereby they could remit their own gains at further profit. 'Thus,' concludes 'Afīf, 'by buying up the troopers' pay (-claims) many became rich, and so this (such dealing in pay-drafts) became their main business (*rozgār*).'[109]

We can see from these two passages that both in Balban's reign and in Fīroz Tughluq's, much profit ensued to those who could advance money against claims on state revenues, or invest in instruments that could entitle them to claim a share of the revenues due from the districts. The profit on each transaction, as we see from 'Afīf's account, amounted to as much as a half of the money invested.

From 'Afīf's account we can also see that the pay drafts or *iṭlāqs* were treated in the same manner as bills of exchange, being fully negotiable. It is a matter of some vexation, then, that we do not get any direct evidence about the commercial bills of exchange from our Sultanate-period sources. It would seem from the documents in Kshemendra's *Lokaprakāsha* (Kashmir, eleventh century) and the *Lekhapaddhati* (Gujarat, thirteenth century) that the term *hunḍika* could apply to a loan agreement, a pay draft, and perhaps also a proper bill of exchange.[110] It is also rather odd that the word corresponding to *hunḍī* in Persian, viz., *safta*, is given so ambiguous or confused a meaning in the dictionary of Qawwās, compiled in India, c.1325, but the *Miftāḥu'l Fuẓala* (1469) clearly defines *safta* and equates it with the Hindi *hunḍī*.[111]

The occurrence of one word in changing contexts does, however, suggest that the issuing and discounting of bills of exchange had become a major profitable business. When Amīr Khusrau in 1283-84 mentions the *ṣarrāf* with his awry scales of weights,[112] this suits the literal meaning of *ṣarrāf* as a person who tests or changes coins. But when the word is used by both Baranī and 'Afīf in their accounts of Fīroz Tughluq's reign, the *ṣarrāf*s form part of the wealthiest strata of the mercantile and financial classes of Delhi.[113] This could only have happened if *ṣarrāf*s had already taken in hand the function of issuing and discounting of bills—the main feature of pre-modern indigenous banking.[114] It is possible that they also accepted other people's money at interest—an early form of deposit-banking. This is suggested by a complaint by 'Aīnu'l Mulk Māhrū that two *ṣarrāf*s, Donān and Diwān Seṭh, had inveigled him into placing 705 *ṭanka*s with them, but they had left, along with the two sureties to Pattan, whereupon he sought the aid of the officials of the latter town to get his money back.[115]

It needs to be confessed that our picture of the system of credit still remains hazy and obscure in some crucial aspects. We know, though, that interest used to be charged on a monthly basis: Amīr Khusrau thus scornfully pictures a money-man (*khwāja*) engaged in usury as looking forward to the passing of the month in order to collect 'two or three pennies (*dāng*)' of his, on account of interest (*sūd*).[116] Unfortunately, not only must our knowledge of

bills of exchange rest on inferences, we also have simply no information on the commercial rates of interest prevailing in Indian markets in the period of the Sultanate.

NOTES AND REFERENCES

1. M. Athar Ali, 'Capital of the Sultans', reprinted in Ali, *Mughal India*, pp. 37–48.
2. Ibn Baṭṭūṭa, *Riḥla*, pp. 414–15, tr. Gibb, III, pp. 618–19.
3. Ibid., p. 480, tr. Gibb, III, p. 708.
4. See the map 'Tughluqabad town plan' in Mehrdad Shokoohy and Natalie H. Shokoohy, 'Tughluqabad, Third Interim Report', *BSOAS*, 66(1), (2003), p. 15.
5. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 44–45. From the usual large-scale guide maps, 15 km appears to be an accurate estimate of the road distance between the two spots.
6. J.C. Russel in Cipolla, ed., *Middle Ages*, I, p. 34.
7. Ibn Baṭṭūṭa, *Riḥla*, p. 547, tr. Husain, pp. 168–69. On p. 548, Ibn Baṭṭūta speaks of the size of the province (*balād*), not of the city (*madīna*); *contra* Husain's tr., p. 170.
8. Baranī, *Tārīkh-i Fīrozshāhī*, p. 91.
9. Ibn Baṭṭūṭa, *Riḥla*, p. 611, tr. Husain, pp. 235–36. Mahdi Husain's identification of this city with Chittagong seems improbable.
10. Ibid., p. 545, tr. Husain, p. 166.
11. Ibid., pp. 402, 413, 539, 542, 552; tr. Gibb, III, pp. 604, 539, 542; tr. Husain, p. 175.
12. Ibid., pp. 560–61, 563–64, 606; tr. Husain, pp. 185, 188, 230.
13. Ibid., pp. 564–66, 568; tr. Husain, pp. 189–91, 193.
14. In a petition to the court, dated December 1361, it was asserted that Multān had gone to ruin with much of its population dispersed presumably in the late years of Muḥammad Tughluq (d. 1351), but it had now begun to be re-peopled (Māhrū, *Inshā'-i Māhrū*, p. 39).
15. 'Afīf, an official under Fīroz Tughluq, mourns how Delhi was destroyed 'by the Mughals', its population massacred and the survivors dispersed ('Afīf, *Tārīkh-i Fīrozshāhī*, p. 136). Also see Yaḥyā, *Tārīkh-i Mubārakshāhī*; and Sharafuddīn 'Alī Yazdī, *Ẓafarnāma*, II, pp. 92–125.
16. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 148.
17. Sikandar Manjhū, *Mir'āt-i Sikandarī*, pp. 31–38. Its great size, 'with stone and mortar houses roofed in our fashion', is noted in 1516 by Barbosa, *Book of Duarte Barbosa*, I, p. 125.
18. When such trade was induced mainly by taxation by potentates who lived in the towns, it would naturally appear that 'the trade was heavily in one direction—from villages to town' (Habib, *Agrarian System*, pp. 82–90; p. 90).
19. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 305–06. Cf. Khusrau, *Khazā'inu'l Futūḥ*, p. 21; 'Iṣāmī, *Futūḥu's Salāṭīn*, p. 311; and Ibn Baṭṭūṭa, *Riḥla*, p. 430, tr. Gibb, III, pp. 640–41).
20. Ibid., pp. 525–27, tr. Gibb, III, pp. 762–64.
21. Numerous (possibly over 100) domed chambers for storing grain in sets of 10, have been located near the gates and at other points along the walls of the fort and town of Tughluqabad, built under Ghiyāṣuddīn and Muḥammad Tughluq (see Shokoohy and Shokoohy, 'Tughluqabad, Third Interim Report', pp. 34–37, Plates XIX and XX and Figs 4, 6 and 10). Cf. Baṭṭūṭa, *Riḥla*, pp. 415–16, tr. Gibb, III, p. 621, for granaries along the town wall of Qutb Delhi allegedly filled in Balban's time with rice.
22. Baranī, *Tārīkh-i Fīrozshāhī*, p. 307.
23. Naṣīru'ddīn narrates this on the basis of what he heard from 'Alā'u'ddīn Khaljī's minister, Qāzī Ḥamīduddīn, 'the Prince of Merchants' (Ḥamīd Qalandar, *Khairu'l Majālis*, p. 241).
24. Baranī, *Tārīkh-i Fīrozshāhī*, p. 306.
25. Ibn Baṭṭūṭa, *Riḥla*, p. 413, tr. Gibb, III, p. 617.
26. Ibid., p. 428, tr. Gibb, III, pp. 638–39.
27. Ibid., p. 539, tr. Husain, p. 159.
28. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 568–69.

29. Ibid., p. 157.
30. Baṭṭūṭa, *Riḥla*, p. 546, tr. Husain, p. 167 (the translator errs in specifying that the distance given is the one between Delhi and Chanderi).
31. Ibid., p. 428, tr. Gibb, III, pp. 638–39.
32. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 183.
33. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 310–11. Although the Rashid edn has the same reading, with the form *bhairam* for *bhairon*, it seems likely that Baranī intended to write *bhairon-i Devagīrī* rather than *bhairon-o-Devagīrī*. For the export of fine fabrics of Daulatābād (Devagiri) to Delhi, see also Ibn Baṭṭūṭa, *Riḥla*, p. 430, tr. Gibb, III, p. 640.
34. Māhrū, *Inshā'-i Māhrū*, pp. 71–72.
35. Barbosa, *Book of Duarte Barbosa*, p. 107. 'Diul', a name surviving from 'Deval', Sind's chief port at the time of the Arab conquest, was now presumably applied to Lāhari Bandar.
36. Ibid., I, pp. 126–30, 136–37, 154–56; II, pp. 91–93.
37. Ibid., I, pp. 129, 159–61. By this time (*c.*1516), quick-silver, vermilion and copper brought by the Portuguese was also being carried by Malabar shipping to Chaul (p. 160).
38. Ibid., I, pp. 195–96.
39. Ibid., II, pp. 76–77, 80–81, 91-93, 97.
40. Māhrū, *Inshā'-i Māhrū*, p. 79.
41. In response to this plea, Māhrū disclaimed having authorized the tax, but went on to argue that the artisans were not impoverished since they were demanding high wages while the grain prices had fallen and that, in any case, the money was needed to pay troops, who stood guard on the people of the faith, the country and the community (Māhrū, *Inshā'-i Māhrū*, pp. 47–49).
42. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 383–84.
43. Fīroz, *Futūḥāt-i Fīrozshāhī*, pp. 5–6; *Sīrat-i Firozshāhī*, pp. 117–18.
44. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 375.
45. The text of *Futūḥāt* reads *kitābī*; but *kayālī* from *kayāl*, weighman, as in the *Sīrat-i Firozshāhī*, seems to be the right reading.
46. This is in *Futūḥāt* alone, which omits the tax just preceding. The word could also be *chīta*, in which case it may mean a tax on the chintz-dyers.
47. *Sīrat-i Fīrozshāhī*, p.18. Cf. *Tārīkh-i Fīrozshāhī*, pp. 5–6.
48. That this could easily happen is shown by the incidental statement in Māhrū, *Inshā'-i Māhrū*, p. 59, that in Uchh *zakāt* was collected under the designation of *batta*.
49. Baṭṭūṭa, *Riḥla*, pp. 403, 470, tr. Gibb, III, pp. 604–05, 694.
50. Māhrū, *Inshā'-i Māhrū*, pp. 79.
51. Ibid., pp. 212–13. It transpires from this document that two brothers, Aḥmad and Yāsīn, and other merchants, complained that while they carried a *farmān* permitting them to pay the duties at Delhi, 'Ainu'l Mulk 'Māhrū' at Multan had disregarded this order and realized 20,000 *ṭanka*s from them in lieu of these taxes. Māhrū countered by saying that he had explained matters to the court, and obtained a *farmān* permitting him to collect the duties at Multan. Further, he had taken 1,800 *ṭanka*s from them on account of *zakāt* and *dāngāna* and not 22,000 *ṭanka*s (so here stated) as alleged.
52. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 374–75.
53. Ibid., pp. 374–75, 379.
54. Māhrū, *Inshā-i Māhrū*, p. 212, in a censorious letter addressed to the two merchants Aḥmad and Yāsīn conceded that it was the duty of 'governors, territorial assignees, officials set over localities and commandants of routes (*walāt o muqti'ān o aṣḥāb-i aṭrāf o rāhdārān*) to adopt towards merchants and traders the practice of fair-dealing and benevolent kindness and to try to give them relief and secure a profitable end (to their enterprise).' But he demanded from the merchants, in return, that they should conduct themselves 'truthfully, sincerely and respectfully' in their dealings with officials.
55. Sanskrit insc. pub. with transl. by E. Hultzsch in *Indian Antiquary*, XI, pp. 241–45; republished with commentary by D.C. Sircar in *Epigraphia Indica*, XXXIV, pp. 141–45. The designation 'king of kings of traders' occurs in the Arabic version (Sircar, *Epigraphia Indica*, pp. 149–50, giving Z.A. Desai's rendering of it).

56. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 251–52. But the *khwāja*s were by no means destroyed. In the 1340s, Ibn Baṭṭūṭa found foreign merchants (*al-tajjār al-ghurabā*) settled here, full of prosperity, having built 'beautiful houses and splendid mosques' (Ibn Baṭṭūṭa, *Riḥla*, p. 550, tr. Husain, pp. 172–73). For these houses of Cambay, see also Māhrū, *Inshā'-i Māhrū*, p. 133, who expresses much wonder over them.
57. Ibn Baṭṭūṭa, *Riḥla*, pp. 560–61 (Mangalore), pp. 563–64 (Panderani), p. 564 (Calicut), p. 568 (Quilon), tr. Husain, pp. 185, 188–89, 193.
58. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 398–99.
59. Minhāj Sirāj, *Ṭabaqāt-i Nāṣiri*, I, p. 426.
60. Sijzī, *Fawā'idu'l Fuwād*, pp. 201–02.
61. Amīr Khwurd, *Siyaru'l Auliyā*, p. 94.
62. There was thus some justification for 'Ainu'l Mulk's assertion, *c*. 1360, that Multan was not only an ancient city, but had possessed Islam for 700 years (*Inshā'-i Māhrū*, p. 39).
63. Baranī, *Tārīkh-i Fīrozshāhī*, p. 352. Both Baranī and Naṣīru'ddīn designate the minister, Qāzī Ḥamīdu'ddīn Multānī, as *maliku't tajjār* 'prince of merchants'; but Shaikh Naṣīru'ddīn's references to him seem quite favourable (Ḥamīd Qalandar, *Khairu'l Majālis*, pp. 88, 241).
64. 'Bahār', *Bahār-i 'Ajam*, s.v. *Multānī*. 'Bahār' quotes Mullā Tughrā, a recent poet. Exactly the same words in explanation are used by Sirājuddīn Ārzū, *Chirāgh-i Hidāyat* (1740), s.v. *Multānī*, but without the citation.
65. Careri, *Indian Travels of Thevenot and Careri*, p. 77.
66. Paired with *sāh*s in Baranī, *Tārīkh-i Fīrozshāhī*, pp. 120, 289; for usury, see p. 120.
67. Prasad, *Sanskrit Inscriptions*, pp. 8–11 (text), 12–15(tr.).
68. *Epigraphia Indica*, XXXIV, pp. 160–61 (insc. ed. D.C. Sircar). Sircar refers to a contemporary inscription from Sakrai (XXVII, pp. 27*ff*.), where also Dhūsara *shreshṭhin*s are referred to. The Dhūsar history ended in the nineteenth century when the Dhūsars metamorphosed themselves into Bhārgava Brahmans.
69. For the texts, translations and commentaries on these inscriptions, see Prasad, *Sanskrit Inscriptions*, pp. 15–18, 22–31.
70. Ibid., pp. 22–31.
71. Thus in Baranī, *Fatāwā-i Jahāndārī*, India Office, MS: I.O.1149, ff.118b-120b.
72. Baranī, *Tārīkh-i Fīrozshāhī*, p. 546.
73. Ibid., p. 554.
74. Baṭṭūṭa, *Riḥla*, p. 548, tr. Mahdi Husain, p. 170.
75. Cf. Prasad, *Lekhapaddhati*, pp. 26–27.
76. Marco Polo, *Ser Marco Polo*, II, p. 363. For Niẓāmu'ddīn's comments on the ethics of the Gujarat merchants, favourably compared with those of the Muslim merchants of Lahore, see Sijzī, *Fawā'idu'l Fuwād*, pp. 20–22. Barbosa, in *Book of Duarte Barbosa*, expressly uses the name 'Banneanes' for the Gujarat merchants.
77. Ibn Baṭṭūṭa, *Riḥla*, p. 568, tr. Husain, p. 193.
78. The main source of this suggestion is Yule and Burnell, *Hobson-Jobson*, p. 207.
79. Ma Huan, *Ying-yai Sheng-lan*, pp. 135–36.
80. Barbosa, *Book of Duarte Barbosa*, II, pp. 71–73.
81. Ibid., II, pp. 125–26.
82. Ibid., II, pp. 55–57.
83. Khusaru, *I'jāz-i Khusrawī*, I, p. 174.
84. Baranī, *Tārīkh-i Fīrozshāhī*, p. 306.
85. Qalandar, *Khairu'l Majālis*, p. 241.
86. Baranī, *Tārīkh-i Fīrozshāhī*, p. 307.
87. 'Bahār', *Bahār-i 'Ajam*, s.v. *baqqāl*.
88. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 140.
89. 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 61.
90. Cf. Abū'l Faẓl, *A'īn-i Akbarī*, II, p. 57. *Baqqāl* is an Arabic word.
91. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 93.

92. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 309–10. Any merchant disobeying the order, says Baranī, would have his goods seized.
93. Now, says Baranī (*Tārīkh-i Fīrozshāhī*, pp. 384–85), 'the regulations with regard to the Sarāi 'Adl were abolished, the Multānīs became immersed in their commerce (*saudā*) … and the *bāzārīs* (market-men) celebrated the passing away of Sultan 'Alāu'ddīn'.
94. Ḥamīd Qalandar, *Khairu'l Majālis*, pp. 94–95.
95. Baranī, *Tārīkh-i Fīrozshāhī*, p. 554.
96. Marco Polo, *Ser Marco Polo*, II, p. 363.
97. Baranī, *Tārīkh-i Fīrozshāhī*, pp. 313–14.
98. Ibid., p. 314.
99. Ibid., p. 307.
100. Māhrū, *Inshā'-i Māhrū*, pp. 71–73.
101. 'Afīf, *Tārīkh-i Fīrozshāhī*, p.180, claimed that under the 'free trade' conditions of commerce under Fīroz Tughluq, 'the merchants obtained larger profits (*nafa'*) every year; and the gain (*sūd*) made by the market-men (*ahl-i bāzār*) each year even exceeded their capital (*māya*)'.
102. Ḥamīd Qalandar, *Khairu'l Majālis*, pp. 118–19. Of another *bazzāz*, we are told: 'He used to wear robes woven in China, went about mounted on a horse and had slaves running behind him' (p. 146).
103. Baranī, *Tārīkh-i Fīrozshāhī*, p. 54.
104. Ḥamīd Qalandar, *Khairu'l Majālis*, p. 241.
105. Baranī, *Tārīkh-i Fīrozshāhī*, p. 310. Ibn Baṭṭūṭa (*Riḥla*, p. 430, tr. Gibb, III, p. 640), says 'Alā'uddīn Khaljī, lent money to merchants to bring cattle and sheep to Delhi for sale, as well as to bring fine fabrics from Daulatābād. See also 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 293, for such financial assistance by 'Alāu'ddīn Khaljī to merchants.
106. Baranī, *Tārīkh-i Fīrozshāhī*, p. 120.
107. *Iṭlāq* literally means 'releasing, despatching' (persons), but the context clearly shows it here means releasing pay, that is, a payment order, where one would normally expect a word like *barāt*. It has been rendered in our translation of the passage consistently by the word 'pay-draft'.
108. *iṭlāqāt az iqṭa'āt dar sawād mī andākhtand*. The last four words mean '(they) used to put into writing'; and this may imply either that they themselves issued the drafts, or endorsed (that is, discounted) drafts issued by others. The context suggests that the latter must be meant, since the persons concerned had obtained money in the *iqṭā's* which they needed to transfer to the capital, and this could be done only by discounting, not issuing, bills on Delhi.
109. 'Afīf, *Tārīkh-i Fīrozshāhī*, pp. 296–97.
110. See Pushpa Prasad, 'Hundika Documents from Lokaprakasa', *PIHC*, Gorakhpur (1989–90) session, pp. 124–31, where the *Lekhapaddhati* documents are also discussed.
111. 'They use it for some person from whom his seat is taken away and [to whom] another place given.' (Qawwās, *Farhang-i Qawwās*, p. 110.) This meaning does not suit the sense of *safta* in the couplet of Julāb Bukhārī that is quoted: 'With you is neither capital (*māya*) nor even *safta*', where the meaning of unredeemed bill or promissory note would be quite appropriate. The definition of *safta/hunḍī,* furnished by the *Miftāḥu'l fuzalā,* f. 173b, is as follows: '*Safta:* [a document used] when something is taken from a person at one place and given to him at another place, that is, a *hunḍī*.'
112. Khusrau, *I'jāz-i Khusrawī*, I, p. 174.
113. Baranī, *Tārīkh-i Fīrozshāhī*, p. 554; 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 61.
114. On *ṣarrāf*s and their banking practices, see Irfan Habib, 'Merchant Communities in Pre-colonial India', in Tracy, *Rise of Merchant Empires*, pp. 387–88, 392–96.
115. Māhrū, *Inshā'-i Māhrū*, pp. 60–61, 229. It is possible that this letter was written when Māhrū was at Broach in the late years of Muḥammad Tughluq; and the *sarrāf*s had gone from there to Pattan, the capital seat of Gujarāt at the time. On p. 61, the amount is said to have been 700 *ṭanka*s; Māhrū himself was then proceeding to Pattan (p. 229).
116. Khusrau, *Maṭla'u'l Anwār* (composed 1298–99), p. 174.

CHAPTER 14

The State and Economy

Shireen Moosvi

Karl Marx was a pioneer in attempting an analysis, in light of classical economic theory, of how the pre-colonial system in India operated. As is well-known, he regarded two institutions, the village community and 'Asiatic despotism', as the chief pillars of that system. While the village community formed a custom-bound self-sufficient unit, the system of Asiatic despotism was based essentially on a rent-tax equivalence.[1] Marx thought that the bulk of the surplus (equivalent to rent in other economies) was exacted from the village community in the shape of tax taken in kind, although the goods forming the exacted surplus might thereafter be converted into commodities through sale on the market. Thus, contrary to some popular misperceptions, Marx did not hold the pre-colonial system to have been a commodity-less ('natural') economy.[2] In other words, prices, credit, etc., could yet have played an important role under the order of Asiatic Despotism of his perception.

Interesting historical questions arise in the light of actual evidence, once Marx's model is accepted for a working hypothesis. Marx had generally spoken as if the tax in kind was the universal way in which tax-rent was obtained by the 'Asiatic' ruling class from the primary producers. But he himself later read Mountstuart Elphinstone's *History of India* in the 1870s and underlined the statement made in it of Akbar's fixing and collecting the land tax in money.[3] Now, if the tax is fixed in money, the result of any alterations in the tax demand may be quite different from one where tax is taken in kind and only thereafter put on the market. This is brought home to us by the statements of an early seventeenth-century historian (the author of the *Tārīk̲h-i Dāūdī*) about the effect exerted on prices when Ibrāhīm Lodī (1518–26) ordered that all territorial assignment holders should take the tax not in money as hitherto, but in kind.

It is best, first, to give this passage in a literal translation, since the sole existing rendering of the whole passage (in Elliot and Dowson) is not technically accurate:

> One of the wonders of the reign of Sultan Ibrahim [Lodī] was that grain and cloth and all (other) goods became as cheap as at no time before, except, perhaps, for the late years of the reign of Sultan 'Alā'uddīn K̲haljī. The low prices of Alā'uddīn's time were achieved by a hundred thousand measures, punishments

> and compulsion, whereas the cheapness of Ibrāhīm's reign was fate-produced. Although in the reign of Sikandar [Lodī] too prices were low, yet they were not so low as in Ibrāhīm's reign. It is said that by one *bahlolī* ten *mans* of grain, five *mans* of ghee or ten yards of cloth could [now] be purchased and all other goods too at similar rates. The reason of all this ease and cheapness was that the rains fell as well as could be wished for and the fields yielded maximum harvests, and the prosperity of the kingdom increased ten-fold. Further, Sultan Ibrāhīm had ordained that all the commanders and nobles should take nothing in tax but food-grain and whatever (crop) is produced from the land and should not take any amount of cash from the peasants (*ri'āyā*). Thus grain beyond estimation was received from the *jāgīrs* while all the expenses of the commanders and nobles had to be paid for in ready money. They were thus compelled to sell the grain at whatever prices anyone offered. It so happened by the will of God that the price of grain fell to ten *mans* per *bahlolī*; but gold and silver became scarce. For a person with dependents and family a monthly salary of just five *tankas* was paid; and twenty-three *tankas* per month were paid to a horseman. If one was to go from Delhi to Agra and had a horse and a groom with him, he could reach Agra in all ease and affluence at the expense of just one *bahlolī*. The cheapness of grain of the reign of Sultan Ibrāhīm was one of the great gifts of God.[4]

The author conventionally attributes the low prices of Ibrāhīm Lodī's reign to the benevolence of God, yet from his description, one can reconstruct the sequence of events as follows: ample rains led to bumper harvests that brought down the harvest prices, making it difficult for peasants to commute the land tax fixed in kind into cash. The Sultan thereupon issued an order to all tax assignees (*jāgīr*-holders) not to demand money, but wholly collect the tax share in kind, even in case of crops other than foodgrains. This led to large quantities of agricultural produce accumulating in the nobles' hands after being received from their territorial assignments. Since the goods and services the nobles themselves bought for their own use and their households had to be paid for in cash, they were obliged to sell their large stocks of grain at whatever rates they could get for them; and so prices, already low, went on falling further. The reference to scarcity of gold and silver can, on the face of it, refer to a different phenomenon, namely a fall in the stocks of *both* these precious metals. The more plausible inference, however, is that the author simply has in mind the fact that since prices fell, one needed much more grain to sell in order to get gold and silver of the same quantity as before; in other words, he is simply saying that the value of the money metals went up, and so they were, relatively speaking, scarce. The other, but very unlikely, interpretation can be that he is referring to an absolute scarcity of gold and silver, in other words, to a fall in the availability of the two metals. Such an absolute scarcity of silver and gold has, indeed, been held to be the principal element in the aspect of low prices prevailing during the Lodi period.[5] But the context in which the statement occurs, as we can see from our literal rendering, seems to exclude the author of the *Tārīkh-i Dāūdī*, 'Abdullāh, having any such meaning in his mind.

If Ibrāhīm Lodī's order for the realization of land tax in kind instead of cash had the unintended result of bringing a (further) decline in prices, then it raises for us the question

about how far taxation measures could affect prices, once the tax came to embrace the bulk of the surplus. This may make us see a new aspect of the way in which ‘Alāu’ddīn Khaljī (1296–1316) could bring down prices through a deliberate manipulation of the land tax and the mode of its realization.

Following Irfan Habib’s analysis of Baranī’s detailed account of ‘Alā’uddīn Khaljī’s price-control measures,[6] we can describe their principal elements as follows. To enhance the revenue resources of the state, the land tax had been fixed uniformly on all cultivators at half of the produce, with other taxes also being imposed, such as house tax (*gharī*), cattle tax (*charāī*), etc., on all villages. Such a tax increase greatly enhanced the Sultanate’s control over agrarian resources. Had this demand been converted into cash, the peasants would have tried to sell grain at higher prices than the official commutation rates in order to retain some of the surplus for themselves. Thereupon, prices would have greatly risen. To prevent this result ‘Alāu’ddīn ordered the land tax (*kharāj)* from the *khāliṣa* territories (where tax was directly collected by the Sultan’s officials) in the Doāb region to be collected in grain and stored in the state granaries, with a view to its being sold to merchants at low prices. With such an instrument at hand to release grain in the market at his will, ‘Alā’uddīn Khaljī let the *wālī*s or *muqṭi*‘s (governors and tax-assignees) in the assigned territories (*walāyāt*) collect the tax in money, at low commutation rates. But at these low rates, the peasants too were compelled to surrender their grain immediately to merchants ‘by the side of the field’.[7] Thus a heavy land tax, a large grain reserve and vigorous administrative action together made it possible to direct large supplies of grain to the towns for sale at low prices. The key to the success was the Sultan’s ability to ensure that the ‘peasants had to sell grain at prices fixed by the Sultan’.[8] But if this vigour was not employed (a vigour that caused much hardship to the villagers, which Baranī describes for us with some relish), the prices would merely have risen, so that wherever the revenue-assignees tried, for their own convenience, to collect the tax in money, such a price rise would have correspondingly modified the scale of tax enhancement in real terms.

While ‘Alāu’ddīn’s measures showed that when practically the whole surplus was being appropriated in tax, tax arrangements could be so made as to control or reduce price levels, one can see from the sequel to the abandonment of the Sultan’s administrative devices after his death that tax collection at that high level now inexorably generated a rapid rise in prices. The prices rose so much, we are told, that wages rose four-fold under Quṭbuddīn Mubārak Khaljī (1316–20).[9] During the reign of Muḥammad Tughluq (1324–51) and the early years of Fīroz Tughluq (1351–88), the low prices of Alā’uddīn’s reign were remembered with wonderment, this itself being a strong testimony to the high levels of prices now prevalent.[10] There is one specific list of prices which presumably belongs to the early years of the reign of Muḥammad Tughluq, apparently referring to times previous to the transfer of the capital to Deogir (1327–28). Shihābuddīn al-‘Umarī, basing himself on reports from travellers from India, gives prices for major articles of consumption.[11] The following table (14.1) compares these prices with those in the time of ‘Alā’uddīn Khaljī, as reported by Baranī.[12]

Table 14.1 shows a substantial increase in grain prices, while the other items show no such increase. But taxation was essentially concerned with foodgrains. If their prices rose by one and a half times (wheat) to double (barley) and nearly three times (rice), then one can expect that in monetary terms, the land tax would in turn need to be increased correspondingly.

TABLE 14.1: PRICES IN *JĪTAL*S PER *MAN*

	Alāu'ddīn Khaljī's Regulated Prices	Muḥammad Tughluq 1320s
Wheat	7.5	12
Barley	4	8
Rice	5	14
Sugar (ordinary)	60	64
Sugar refined (*nabāt*)	100	80
Cow	72 to 96	96
Buffalo	240	96

Note: The prices for cow and buffalo are those given for animals sold for meat. For *shakkar* (ordinary sugar) of the Arabic report, Baranī has two varieties, *shakkar-i tari*, for which the price is here given; for *shakkar-i surkh*, he has a much lower price, viz., 20 *jītal*s only per *man* (or, as in MSS and Rashid edn, just 13.33 *jītal*s).

It is in this light, partly at least, that the increase in taxation decreed by Muḥammad Tughluq must be considered. One must, of course, dispense with the element of exaggeration in Baranī's statements: a 10-fold increase spoken of by Baranī is hardly to be taken literally.[13] But the fact of a substantive increase in taxation is also supported by Yaḥyā Sirhindī, whose narrative of that reign is quite independent of Baranī.[14] We can thus see here a tax-price spiral, which would progressively tend to press prices and taxes upwards, the one set pursuing the other.

Revolt and famine are held by Baranī to be in part a sequel to Muḥammad Tughluq's fiscal measures;[15] but these, by raising prices still more, must have provided the compulsion for a further enhancement of taxation, although Muḥammad Tughluq did attempt to break the vicious circle by an ambitious, though unsuccessful, project of agricultural development.[16]

It is therefore possible to argue that a centralized regime of taxation, needing to collect tax in money, was bound to create a tax-price spiral. Here one may consider a possible objection. Would such an 'induced' inflation not be checked by the limitations of money supply? One is reminded of the Fisher equation, PT=MV, that is, prices multiplied by quantities of commodities in all transactions must equal the amount of money in circulation multiplied by the average velocity of each unit of money during the same period. Prices, then, could not rise to a level beyond MV/T, where there would just not be enough money in the form of metal to make the requisite additional payments. When such a level was reached, the price of money-metal would necessarily begin to rise and the prices of all commodities must conversely begin to fall.

There are, however, two factors to be considered here: one is 'velocity', the capacity of a single coin to be used a number of times within a period. As the currency of the Delhi Sultanate embraced a larger and larger area, its acceptability must have extended, and so each coin gained greater velocity, that is, the capacity to pass through more hands than local coins could ever do. Moreover, credit transactions, including *sondhār* loans to peasants, might have reduced the demand for money at harvest times, while credit instruments like *hundi*s might have increasingly replaced coins in commercial payments, now that commerce grew on the basis of the larger range of the cash nexus. All of this could be seen as adding to the velocity

of money. But there is also the matter of the absolute availability of money to be considered. One can visualize the existing store of precious money-metals, gold and silver, as forming a large money reserve in the form of bullion and ornaments. Once prices rose, the money in use could shift increasingly from the cheaper metal, copper, to silver, a metal much cheaper than gold, and thus to be called to serve first in lieu of copper as prices rose, requiring the use of coins of higher value. There is no way of measuring the uncoined stock of silver in private hands and royal treasuries in the thirteenth century; but it may be imagined that the stock was considerable, and that it was added to constantly by imports of silver and gold to pay for the traditional excess of India's merchandise exports over imports, a phenomenon for which there is positive evidence.[17] Such stock would have been enough to allow the increasing replacement of copper money based on the *jītal* by the silver *ṭanka* and its higher silver-based fractional pieces (especially *hashtgānī* and *shash-gānī*). This indeed explains the disappearance of the lowest copper piece of coined money. Thus, the single copper *jītal* coin *yagānī* was no longer minted in 1315, when Shaikh Niẓamuddīn had occasion to recall its use at an occurrence during the time of his youth, before 1265.[18]

One must, however, concede that a point would be reached where the silver bullion reserve would at last be exhausted, at which point the intrinsic price of silver would begin to rise. Irfan Habib has given evidence for the rise of silver price in terms of gold in the thirteenth century: the gold–silver ratio altered in India from 1:15 in 1290 to 1:10 in 1340, and finally to an incredible 1:5.5 in 1433.[19] When such an ascent in silver price took place, there would be little alternative left but to mint less and less of pure silver, and then at last to turn to debasement. An analysis of UP coin hoards reveals that silver minting, after it had reached its apex under Alā'u'ddīn Khaljī, declined dramatically after Ghiyāṣuddīn Tughluq.[20] Muḥmmad Tughluq's attempt to issue a token copper or billon currency in the 1330s is too well known to need retelling.[21] In his successor Fīroz Tughluq's reign (1351–88), billon currency seems to have nearly entirely replaced silver coinage.[22] Such debasement could ultimately mean a fall in prices, for as debased coins bore the same formal value as the coins they replaced, they presumably replaced the latter in tax payment as well. This would let prices at last fall in terms of precious metals, corresponding to the actual reduction of the costlier metal in the coin in actual use.

One can imagine that when the debasement first began, the metallic value of the debased coin was only marginally lower than the original one.[23] As debasement proceeded further, the 80-*rati* billon *ṭanka* could no longer be confused with the silver one. But it bore the same name, and taxes and prices would naturally be paid in it rather than the silver *ṭanka*, which would by now have been driven out of the market under Gresham's Law. As this came about gradually, the government tax would have continued to be stated and collected at the same rates in the debased money, and so would bring down prices in terms of silver. Knowing of how under Fīroz Tughluq a mild policy was adopted to avoid popular discontent, it was not likely that an increase in money rates of tax would be attempted. The result was that by the close of his reign, tax rates were maintained at constant levels in debased money; the prices stated in debased coinage would appear to be increasingly lower when reconverted into *jītal*s (set fractions of pure silver *ṭanka*s). Thus 'Afīf, writing in or about 1400, could recall the later days of Fīroz Tughluq to have been days of wonderfully low prices once he stated them in older silver money equivalents (as he does).[24]

It is possible that debasement was further fuelled by a world-wide crisis of silver.[25] But one must remember that silver stock does not decline when it is not added to: wastage and ware are very minor depreciative elements in silver. It would, therefore, be hardly reasonable to attribute all price changes of a great magnitude simply to the state of additions to silver stock and forget the role of other factors, notably taxation.

It would now be useful, perhaps, to summarize our argument. Essentially it is a plea to recognize taxation itself as a factor behind ascents in prices, independent of the availability of money-metals. If the revenue fixed in money was increased by the state, or by the tax-assignees, then, other factors remaining constant, prices of grain and agricultural commodities would rise correspondingly. A fall in administrative rigour on ‘Alā’uddīn Khaljī’s death, when the tax demand in money terms remained at the same high level, would necessarily lead to high prices, as happened under Quṭbuddīn Mubārak Khaljī and his successors. An increase in tax demand in terms of grain could, on the other hand, have a reverse effect. If more grain than before passed into the hands of the tax authorities, who needed to sell it on the market to have money to pay their retainers and dependents, then the grain prices would fall. Such, as we have seen, came to be the case under Ibrāhīm Lodī. This was bound to happen because of the inelastic nature of the demand: the urban population could not expand in the short term to correspond with any increase in supply.

On the other hand, the rise in prices and the tendency towards tax-enhancement under Muḥammad Tughluq (1324–51) was a phenomenon resulting directly from what may be called the economics of induced trade. As prices rose after ‘Alā’uddīn Khaljī’s death, the real surplus in the hands of the ruling class was bound to contract unless the tax in money was raised. But such an enhancement would further raise prices, forcing a further tax enhancement. In such circumstances, Muḥammad Tughluq’s attempt to raise the amount of tax loses its aura of arbitrariness, particularly when we note that the region involved was the same where ‘Alā’uddīn Khaljī’s agrarian measures and price controls had been implemented. A price-tax spiral thus begun was ultimately shattered by a revolt and then a famine that shook the entire structure. In the end, these events made it impossible for Fīroz Tughluq to raise the tax in terms of coined money, and a large-scale coin debasement offered the only pursuable alternative.

It is to be noted that this line of argument does not rule out the influence of the ‘silver crisis’ of the fourteenth and fifteenth centuries, but rather directs attention to how its impact could work itself out in systems of centralized surplus extraction (or of tax-rent equivalence).

NOTES AND REFERENCES

1. ‘. . . in Asia . . . [where the State] stands over them [the direct producers] as their landlord and simultaneously as sovereign, then rent and taxes coincide, or rather, there exists no tax which differs from this form of ground-rent’. (Karl Marx, *Capital*, III, pp. 771–72).
2. ‘It is the surplus alone that becomes a commodity, and a portion of even that, not until it has reached the hands of the state into whose hands from time immemorial a certain quantity of these products has found its way in the shape of rent in kind’ (Marx, *Capital*, I, p. 351).
3. Marx, *Notes on Indian History*, p. 42.
4. ‘Abdullāh, *Tarīkh-i Dāūdī*, pp. 104–05. Elliot’s translation (Elliot and Dowson, *History of India*, IV, p. 476), used by J.F. Richards (‘The Economic History of the Lodi Period: 1451–1526’, *Journal of*

the Economic and Social History of the Orient, VIII[1], 1965), is not accurate and contains serious slips. One example of the latter is the rendering, 'countless quantities of grain accumulated in the several *jāgīrs*', instead of 'grain beyond estimation was received from the *jāgīr*s'. A minor slip is the rendering of *chārwādār* as 'escort' instead of 'groom'.

5. Moreland, *Agrarian System*, pp. 68–69; Thomas, *Pathan Kings*, p. 436.
6. Irfan Habib, 'The Price Regulations of 'Alā'uddīn Khaljī: A Defence of Ziya Baranī', *Indian Economic and Social History Review* (*IESHR*), 21(4), 1984, pp. 393–414.
7. Literal translations of the two relevant passage by Irfan Habib given in Habib, 'Price Regulations of 'Alā'uddīn Khaljī', op. cit., pp. 400–01, are reproduced below:

   Passage 1:

   The third regulation for establishing the cheapness of grain consisted in the collection of large quantities of grain in the Sultan's store-houses. The Sultan ordered that in the districts (*qaṣbāt*) of the *Kẖāliṣa* in the Doab, grain alone should be taken in lieu of the land-tax (*kẖarāj*), and that it should be conveyed to the Sultan's store-houses; in the 'New City' (Chha'in) and in the country of the New City, half of the royal tax (lit., the Sultan's share) be collected in grain alone, and this too be stored in Chha'in and the districts (*qaṣbāt*) of Chha'in. The said grain should be delivered to the grain-carriers (*kārvānīs*); as a result so much of the Sultan's grain reached Delhi.

   Passage 2:

   The sixth regulation for establishing cheapness of grain consisted in extracting letters (of assurances) from the revenue collectors (*mutaṣarrifān*) and functionaries (*kārkunān*) of the (assigned) territories (*walāyāt*) to the effect that they would compel the peasants (*ri'āyā*) to sell grain by the side of the fields to grain-carriers (*kārvānīs*) at the (fixed) prices. The Sultan ordered that the Royal Finance Ministry (*Dīwān-i A'lā*) should take letters from the officials (*shaḥnas*) and collectors (*mutaṣarrifs*) of the *walāyāt* of the Doab, which is near the City (of Delhi), to say that they would demand the land-tax (*kẖarāj*) from the peasants with such harshness (*shiddat*) that the latter would not be able to bring the grain from the fields into their houses and engross it, and would be forced to sell the grain at low rates by the side of the field to the grain-carriers. As a result of the establishment of this regulation, the grain-carriers had no obstacle to face in conveying grain to the market (*manda*), and grain supplies constantly reached the market. For their own profit, villagers also brought whatever they could from the fields to the market and sold it at prices fixed by the Sultan.

   (For the original texts, see Baranī, *Tārīkẖ-i Fīrozshāhī*, pp. 305–06, 307).
8. Baranī, *Tārīkẖ-i Fīrozshāhī*, p. 312. Irfan Habib argues that prices could be fixed arbitrarily by the Sultan because the grain brought into the market was the surplus produce (excluding the subsistence cost of cultivator and the cost of agricultural inputs), so that the 'cost of production' did not at all enter into the fixation of prices by the Sultan (Habib, 'Price Regulations of 'Alā'uddīn Khaljī', p. 402).
9. Baranī, *Tārīkẖ-i Fīrozshāhī*, pp. 384–85.
10. Ibn Baṭṭūṭa, *Riḥla*, pp. 429–30, tr. Husain, pp. 41–42; Ḥamīd Qalandar, *Kẖairu'l Majālis*, p. 185.
11. Al-'Umarī, *Masālik al-Absār*, p. 62, tr. Spies, pp. 57–58.
12. For prices given by Baranī, used in the table, see Baranī, *Tārīkẖ-i Fīrozshāhī*, pp. 305, 310, 315.
13. Ibid., pp. 472–73.
14. Yaḥyā, *Tārīkẖ-i Mubārakshāhī*, pp. 101–02.
15. Cf. Irfan Habib in Raychaudhuri and Habib, *Economic History*, pp. 63–64.
16. See Moreland, *Agrarian System*, pp. 49–51.
17. Cf. Simon Digby in haychaudhuri and Habib, *Economic History*, pp. 125–26.
18. Sijzī, *Fawā'id u'l Fuwād*, p. 219. One-*jītal* coins have been found down to the reign of Naṣīruddīn Maḥmūd (1246–66), but not later. See Wright, *Coinage and Metrology*, pp. 73–74, 77, 79.
19. Irfan Habib, *Caste and Money*, p. 26.
20. See Shireen Moosvi, 'Numismatic Evidence and the History of the Delhi Sultanate', *PIHC*, Golden Jubilee (50th) session, Gorakhpur, 1989, p. 213 (Table IV).
21. Baranī, *Tārīkẖ-i Fīrozshāhī*, pp. 475–76; Yaḥyā, *Tārīkẖ-i Mubārakshāhī*, pp. 102–03.
22. Wright, *Coinage and Metrology*, pp. 218–19.

23. The episode described by ‘Afīf, *Tārīkh-i Fīrozshāhī*, pp. 344–49, when the silver *muhr-i shashgānī* was first secretly minted without the standard silver content, may represent one of the first acts of debasement, albeit without permission from Fīroz Tughluq himself.
24. ‘Afīf, *Tārīkh-i Fīrozshāhī*, pp. 293–95. The prices he gives practically accord with those given by Baranī for the times of ‘Alā’uddīn Khaljī: wheat selling for 8 *jītal*s and gram for 4 *jītal*s per *man* under Fīroz at Delhi, as against 7.5 and 5 *jītal*s respectively under ‘Alā’uddīn.
25. Cf. Bloch, *Medieval Europe*, p. 213; and Martin Allen in *Economic History Review*, LIV(4), 2001, pp. 595–611, the latter dealing with silver supply and English coinage during the period 1158–1470.

CHAPTER 15

Coinage and the Silver Crisis

Najaf Haider

After a prolonged period of monetary contraction following a decline in the exchange network and commerce under the phase oft-described as that of 'Indian Feudalism', a gradual reorganization of the monetary economy took place in the twelfth century.[1] The establishment of the Delhi Sultanate early in the thirteenth century and its extension to Gujarat in 1299 and peninsular India a few years later brought about a perceptible change in the production and circulation of coined money. Surviving specimens of the multi-metallic currency system of gold, silver, billon and copper, as well as the reliance of the ruling class on money-lenders, who were paid in drafts (*qabẓ-hā*) drawn on the revenues against their loans, show signs of extensive monetary exchange in the thirteenth century.[2] Firm evidence from the turn of the fourteenth century on the collection of revenue in cash, commodity production, urbanization, and local and long-distance trade suggests the formation of an industrial and commercial basis for further monetary expansion.[3]

The monetization of the Indian economy was also reflected in social attitudes and moral opinions. Ideas on money and accumulation expressed by the fourteenth-century historian Ẓiyā' Baranī and his senior contemporary, the famous Chishti saint Shaikh Niẓāmuddīn, show the deep awareness of a society in which an exchange economy pervaded all walks of life, so that the dominant attitude was one of habitual acceptance of money as a tool of everyday use.

THE GOLD AND SILVER *ṬANKA* AND THE BILLON *JĪTAL*

The principal silver coin of the Sultans of Delhi (1215–1350) was the silver *ṭanka* of 169.8 grains. It was first minted by Iltutmish, probably at the standard of one *tola*, and this weight standard as well as fineness was maintained by the later Sultans until the first half of the fourteenth century.[4] The silver *ṭanka* and its fraction (half a *ṭanka*) were employed either as cash or money of account in higher value transactions, such as purchases of horses, slaves, concubines and textiles, payments of servants' annual wages, piece wages of craftsmen, and money given out in *futūḥ* or offerings to religious divines.[5] The gold *ṭanka*s were minted in limited quantities to be used in high-value exchanges, gifts, and imperial and elite hoarding.[6]

TABLE 15.1: SILVER COINS OF THE DELHI SULTANS (WEIGHT)

Rulers	Reign	Max. Weight (grains)	Designation
Iltutmish	1210–35	169.8	*Tanka*
Balban	1265–87	169.8	*Tanka*
Alāu'ddīn Khaljī'	1295–1315	169.8	*Tanka*
Mubārak Khaljī'	1316–20	169.8	*Tanka*
Muhammad Tughluq	1324–51	169.8	*Tanka*
Muhammad Tughluq	1324–51	144.0	'*adli*
Firoz Tughluq	1351–88	169.8	*tanka-i nuqra*
Sayyids	1421–45	+ 169.8	-

Source: Wright, *Coinage and Metrology of the Sultans of Delhi*; Pheru, *Dravyapariksha*, verses 137, 143 and table 28; 'Afīf, *Tārīkh-i Fīrozshāhī*, p. 344.

TABLE 15.2: SILVER COINS OF THE DELHI SULTANS (VOLUME)

Rulers	Museum Collections	UP Finds
Iltutmish	19.5	3
Alauddin Masud	24.0	21
Nasiruddin Mahmud	56.5	182
Balban	51.0	241
Kaiqubād	17.0	39
Jalaludin Firuz Khalji	26.0	26
Alāu'ddīn Khaljī'	108.0	1633
Quṭbu'ddīn Mubārak Khaljī'	21.5	37
Ghiyasuddin Tughluq	29.0	220
Muhammad Tughluq	34.0	99
Firoz Tughluq	2.0	83

Source: Moosvi, 'Numismatic Evidence', pp. 209–10 (Tables 1 and 2).

Most cash transactions below the value of a half *ṭanka* were conducted in a series of billon coins minted by the Delhi Sultans, which were known by the generic name of *jītal* (gross weight 56.61 grains).[7] The term *jītal* was indicative of the type rather than the value of the coin. The prices of essential commodities such as grain or garments, bought and sold by *man* or by piece, and the daily wages of labourers and artisans were quoted and paid in *jītal*s.[8] From the mid-thirteenth century, the silver content of each *jītal* began to be expressed in a unit of denomination called *gani* or *dramma* (2.83 grains). The gross weight, alloy composition and exchange rate of the one-*gani jītal* (*iggani* or *yakgani*) are given by Pherū. According to him, the standard weight of each *iggani* was one *ṭanka* or 4 *masha*, in which 5 per cent was silver and 95 per cent was copper (Table 15.3). Sixty *iggani*s exchanged for one *ṭanka* of 'Alā'uddīn Khaljī . Pherū also mentions that in the treasury (*raihare*) and public transactions (*vivhare*), the unit of account (*ganiji*) was the *iggani* (*yagānī* in Persian transcription). Despite being the basis of all accounting, the coin fast disappeared from circulation, and it is so rare now that numismatists have not been able to trace a single *iggani* specimen in museum and private collections after the reign of Nāṣiru'ddīn Maḥmūd (1246–66).[9] The disappearance occurred fairly early because in 1315 Shaikh Niẓāmuddīn, while relating an anecdote about a gift received by his preceptor Shaikh Farīd of 50 *yagānī jītals* during the reign of Ghiyāṣ

uddīn Balban (1266–88), remarked that those coins 'were then in use'.[10] Pherū's list of the billon coins of Quṭbu'ddin Mubārak Khaljī also excludes the *iggani*.

There is a possible explanation for the disappearance of the *iggani jital*, and this has to be sought in the operation of Gresham's Law ('bad money drives out good money'). When the mint price and the exchange rate of the coin were fixed (1 *ṭanka* = 60 *gani*), the state disregarded the copper content of the *jītal*s, and so undervalued the *iggani* coin by 20 per cent. In this policy, the idea apparently was to encourage the circulation of small change by offering 20 per cent more to the users for one *ṭanka* weight of silver brought to the mint. But once the coins were minted, it was evident to the informed users and money-changers that the current exchange rate was unfavourable to the *jītal*. By melting 60 *iggani*s they could have obtained 169.8 grains of silver and an amount of copper equal in weight to 45.6 coins of the same metal (*paika*s of 72 grains). The *iggani* was also undervalued against *jītal*s of higher denominations since the mint equivalent in silver of these coins was less than the weight of the *tanka* (Table 15.3). This may have been responsible for the large-scale demonetization of the *iggani*. At some stage, the state may have tried to remove this imbalance by bringing the exchange rate in line with the real value of the coins. We get another exchange rate of one *ṭanka* to 48 *jītal*s (50 *jītal*s in the case of the Deccan coins) current in the market, and it is this rate which appears uniformly quoted in later sources as well.[11]

An expansion in the size of the silver and billon coinage was the hallmark of the Khaljī and early Tughluq period and points to a widening circle of money use. The increase in the size of taxes realized by the state in money, cash payments to soldiers and state functionaries, and the use of money in market transactions suggest a higher degree of monetization of the

TABLE 15.3: BILLON COINS OF THE KHALJĪ SULTANS: AD 1290–1320

1	2	3	4	5	6	7	8	9
Designation (jītal)	Denomination (gani)	Shape	Standard Weight (tanka)	Standard Weight (grains)	Silver (grains)	Silver (per cent)	Mint Price (per tanka of 169.8 grains)	Mint Equivalent per tanka (silver grains)
Yakgani	1	Round	1	56.61	2.83	5.00	60	169.8
[Sawagani]	1.25	Round	1	56.61	3.54	6.25	48	169.8
Dugani I	2	Round	1	56.61	5.52	9.75	30	165.6
Dugani II	2	Round	1	56.61	4.53	8.00	30	135.9
Chaugani	4	Round	1	56.61	9.28	16.39	[15]	139.2
Shashgani I	6	Round	1	56.61	14.48	25.57	10	144.8
Shashgani II	6	Round	1	56.61	14.04	24.79	10	140.4
Hashtgani	8	Square	1	56.61	18.76	33.14	[7.5]	140.7
Baragani	12	Square	1.5	84.92	28.14	33.14	[5]	140.7
Chaubisgani	24	Square	3	169.83	56.28	33.14	[2.5]	140.7
Artalisgani	48	Square	6	339.66	112.56	33.14	[1.25]	140.7

Source: *Dravyapariksha*, pp. 35, 37 (verses 132–36, 144–47 and Tables 24, 25, 29); Deyell, *Living Without Silver* (1 *tanka* = 56.61 grains).

Sultanate economy during the fourteenth century than that attained in the thirteenth century.

A major shift in the use of silver and billon coinage came about in the second quarter of the fourteenth century when Muḥammad Tughluq, after striking the *ṭanka* of 169.8 grains in the beginning, replaced it with a coin of lower weight (144 grains) called '*adli*, which was then treated as the standard *ṭanka*. At the same time, a new billon coin of 144 grains (44 grains of silver) was issued and put on the scale of the *jītal* as *bistgānī*.[12] The stage was set for the introduction of a fiduciary currency, a copper coin of 144 grains (*muhr-i mis*), which was made equal in exchange to the silver *ṭanka*. Meanwhile, the billon of 56.61 grains continued to be issued on different standards of the *jītal*, but more particularly the *chaugānī* (13.7 grains of silver), except during the period of the fiduciary currency. When the fiduciary currency was withdrawn in AD 1331–32 (AH 732), the *chaugānī* reappeared and became the principal unit of billon currency.[13]

THE COPPER CURRENCY

In copper coinage, the heaviest coin of the early Sultans weighed 72 grains and was known by the popular designation of *paika*, with its half called *adhva*.[14] The weight of the *paika* was so devised as to be a quarter of the *gani* and, although the rate was susceptible to the pressure of changes in the bi-metallic ratio, it was maintained for a considerable period of time. References to this coin in the Persian literature are so few that it appears that either the domain of petty transactions was occupied fully by the *jītal*s of lower values, or the authors of historical works were far removed from the milieu in which copper coins were used on a regular basis. Either way, when billon and copper issues began to replace silver, the weight of this coin was increased two-fold by the later Sultans to 144 grains. We know for certain that Bahlol Lodī struck his principal copper coin to this weight, and it is likely that the terms *bahluli* and *paisa* were used for this particular issue. In the beginning when money-changing was simpler, 4 *paika*s exchanged for a *gani* and 240 for a *ṭanka*.[15] With the billon *ṭanka* of 144 grains circulating with a copper issue of the same weight, it must have been very difficult for the money users, as indeed it is for the numismatists of today, to tell them apart. The coins needed to be clearly distinguished and it seems that a rate of exchange was fixed by the state which valued each copper issue in terms of the billon coin.[16] There is no way of knowing either what this rate of exchange was or how it was fixed. If we assume that the billon *ṭanka* was double the value of the copper *paisa* in the fifteenth century, then this could possibly explain the origin of the regular rate of exchange (1:2) between *ṭanka-i murādī* and *paisa* or *dām* in the Mughal Empire.

TABLE 15.4: STANDARD COPPER COINS OF THE DELHI SULTANATE

	Iltutmish	Khaljī's	Tughlaqs I	Tughlaqs II	Lodis
Weight (troy grains)	72	72	72	144	144
Designation	*Paika*	*Paika/dang*	*Paika/dang*	*Paika/dang*	*Paisa/Bahluli*
1 Silver *ṭanka*	240	240	240	120	120
1 *gani*	4	4	4	2	2

TABLE 15.5: COPPER COINS OF THE KHALJĪS

Designation	Weight (masha)	Weight (troy grains)	Exchange Rate in gani	Exchange Rate in tanka
Paika / dang	5.00	72.0	4	240
Adhva	2.50	36.0	8	480
Sava Visva	1.25	18.0	16	960
Visva	1.00	14.4	20	1920

Source: Pheru, *Dravyapariksha*, verse 148 and table 29.

TRANSNATIONAL PRECIOUS METAL FLOWS AND CURRENCY CIRCULATION

Foreign trade was important for the process of monetization and currency circulation for two reasons. First, in the absence of domestic extraction of gold and silver and limited production of copper, India had to rely heavily on imports of foreign coin and bullion to formulate its monetary system and replenish the circulating medium with fresh supplies. Second, the production and sale of export goods created an additional demand for money in the internal circuits of exchange.

The Levant and the Indian Ocean

A major factor affecting the supply of precious metals in India was the commerce with the Mediterranean through the Levant. The Levant had been channelling Eastern commodities to Europe in exchange for gold and silver since Roman times.[17] In the twelfth and thirteenth centuries, the route through the Red Sea had become more active than the rival one through the Persian Gulf in granting Mediterranean commerce access to the Indian Ocean.

When the Delhi Sultanate was established in the thirteenth century, Indian overseas trade with the Red Sea and Levant was already a regular feature of the economic life of this region. Significantly, this was also an era of expansion in silver coinage in most of the regions lying to the west, with which India was trading. The production of silver from the Central European mines (tenth–thirteenth century) precipitated a flow of silver within Europe, both westwards and eastwards.[18] The latter stream, more significant for the India trade, ended up in Italy, which also acquired much of the north-western silver at the fairs of Champagne.[19] The Italian merchants who established factories (*fanādīq*) at Alexandria and Aleppo exchanged for silver, and also for gold, from the late thirteenth century onwards, not only the products of the Levant (Syrian cotton, for example), but also spices and other goods which came from India and further East.[20]

Literary evidence of monetary exchange in the Indian Ocean trade before 1200 is scarce. This contrasts with the kind of material we have for later centuries, with documented prices and sales of goods at port cities. Most documents on which modern surveys are based are revenue registers of major entrepôts, which do not cover currency exports or imports because such transactions were often exempted from customs dues.[21] However, fiscal records do give us an impression that at each entrepôt, commodities were exchanged for money and taxes

were paid in cash and remitted seasonally or annually to the local exchequer. In the case of Aden, we have inventories of annual remittances of port revenues in gold and silver money that were sent to the Rasulid capital, Taiz, under heavy escort.[22] Silver coins of light mintage (probably fractions of dirhams) issued by the rulers of the Rasulid dynasty have been found in a hoard deposited at Broach (Baruch), the famous port city on the western coast of India (see below).

It is reasonable to assume that the money collected in port revenues was only a small portion of what was exchanged for commodities, and that India-bound ships carried a variety of currencies after concluding the sale of merchandise, or upon commencing a fresh cycle of purchases. Letters and legal documents of the Geniza collection, studied by Goitein, reveal that the general movement of specie from the west (Europe, North Africa and Egypt) to the east (India and the Orient) was a permanent feature of the India trade in the twelfth and thirteenth centuries.[23] A similar statement was made by an early fourteenth-century historian of Iran, Shihābuddīn Waṣṣāf, who described as a feature of India (*waṣf-i Hind*) its exports of spices, perfumes and indigo in exchange for gold and silver (*zar o sim*) and other merchandise and rarities. Waṣṣāf also held that gold and silver money acquired through trade was never exported out of India.[24] Although there was in fact a limited outflow of gold and silver from India to import horses and Levantine textiles,[25] there can be little doubt that India's overall trade balance was favourable enough to attract the attention of contemporary observers.

Concrete numismatic evidence of monetary exchange in India's foreign trade in the fourteenth century is provided by a big coin hoard found at Broach in 1882. There are two striking features of the hoard. With a solitary exception, the dates of all the coins found in the Broach hoard fall between AD 1260 and 1382, a period which we know was the most flourishing in terms of the use of metallic money in northern and western India.[26] The second feature of the hoard is the predominance of gold (in terms of value) in the total holding. Altogether 448 gold coins have been reported, as against 1,200 in silver. Out of these, 367 gold coins (more than 70 per cent) belonged to the Bahri Mamluk Sultans of Egypt (1260–1381), dinars of various types and weight, minted at Cairo, Alexandria and Damascus, the three major mints of Egypt and Syria (Tables 15.6 and 15.7). Although the hoard covers the entire span of the Mamluk Sultanate, the reigns of the later Sultans are over-represented. The rate of survival of later coins always tends to be higher in a hoard, but the Broach specimens also indicate the general pattern of monetary circulation in Egypt and Syria. In these regions, silver was the dominant medium in the thirteenth century and gold was exported in large quantities to Europe, which created a shortage of gold, bringing about a rise in its silver price.[27] In contrast, the fourteenth century witnessed an expansion in gold circulation following Al-Nāṣir Muḥammad's policy of issuing large numbers of gold dinars to equip his army against the Mongols, and an increase in Egyptian imports of gold from Sudan (*bilad al takrur*).[28]

TABLE 15.6: ISSUES OF GOLD MINTS OF MAMLUK SULTANS IN BROACH HOARD

Mints	Number of Coins	Percentage of the Total
Cairo	152	48.5
Damascus	81	25.8
Alexandria	32	10.2
Doubtful etc.	48	15.3

TABLE 15.7: GOLD COINS OF THE MAMLUK SULTANS IN BROACH HOARD

Mamluk Sultans	Number of Coins	Percentage of the Total
Al Zahir Ruknuddin Baybars	1	0.3
Al-Mansur Saifuddin Qailun	2	0.6
Al-Nasir Muhammad	23	7.3
Al-Nasir Muhammad III	83	26.5
Al-Ashraf Nasiruddin Shaban	107	34.1
Al-Mansur Alauddin Ali	48	15.3

During his famous pilgrimage to Hijaz (AD 1324), the ruler of Mali, Mansa Musa, spent a handsome amount of personal gold (12.2 metric tons by one estimate), and on his return intensified gold exports through trade and debt payments. The greater availability of gold evidently increased its use in payment for imported goods, and this probably accounts for the high percentage of Egyptian gold coins being found in the Broach hoard.

The next set of gold coins reported in the Broach hoard is Italian: 33 Venetian ducats (1339–68) and five Genoese *quartarolo* (quarter *genevino*). Venice, and to a lesser extent Genoa, were major participants in the Levant trade and buyers of Indian merchandise. Venetian imports, earlier financed mainly with silver *grossi*, were increasingly paid for in ducats from the last quarter of the fourteenth century.[29] Ducats (*ifluri*) were used by the Karims of Egypt to buy merchandise arriving in the Red Sea, and this may have been the principal route for their supply to the Indian Ocean.[30] It is quite possible that a few gold coins (dinars of 1 and 2 *misqal*) of the Mongols and the Muzaffarids of Kirman, present in the Broach hoard and struck in the mints of Tabriz, Shiraz and Baghdad, came by the Persian Gulf route. We have the testimony of the famous historian Rashīduddin Faẓlullāh that gold was exported to India from Il-Khanid Iran.[31]

Whichever route the ducat may have taken, its circulation in the Indian Ocean trade continued in the fourteenth and fifteenth centuries. The reputation it gained as the dollar of the Middle Ages inspired several imitations of its weight (52 grains) and standard, the most notable being the Mamluk *ashrafi* (AD 1425), Yemeni *dinar*, Ottoman *sultani* (AD 1478), and *huns* of the Vijaynagar Empire and Bijapur (*ashrafi do buti*). The circulation of these coins, bearing more or less the same value, not only streamlined the exchange medium used in maritime trade from Alexandria to Aden, but also integrated the entire gold-based region of the Deccan and south India into a single monetary zone within the networks of regional and international exchange.

An overwhelming portion of the silver coins found in the Broach hoard came from Yemen, Mamluk Egypt, Iran and Armenia.[32] There could be two possible sources of these coins as well as the routes they took to the Indian Ocean. Silver originating in the mines of Europe and Eastern Anatolia–Greater Armenia reached the Mamluk kingdom as well as northern Iran, notably Tabriz, taking a longer route via the Mediterranean (Lajazzo, on the Gulf of Alexandretta in Syrian waters) and the Black Sea (Trebizond).[33] European silver was carried to northern Iran by Armenian and Italian merchants who traded under the Mongol overlordship along the caravan highway linking Trebizond with Tabriz.[34] The rise of Tabriz as a political and commercial centre of eminence after the fall of Baghdad is attested by the prolific mint output of this city.[35] Marco Polo, who travelled through Iran on his return journey

to Europe, described the city as an important centre of trade with India in the late thirteenth century.[36]

The other source of silver was the Panjshir mines of Afghanistan. Ashtor, contesting Watson's argument of the European origins of Mamluk dirhams, attributed the revival of silver coinage in Syria and Iraq in the thirteenth century to the westward movement of Central Asian silver as a result of the military spending of the Mongols.[37] Either way, the immense increase in the circulation of silver in the intermediate region of Il-Khanid Iran can be gauged from a change in the bi-metallic (gold: silver) ratio, from 1:6 in the first half of the thirteenth century to 1:12 under Ghazan Khan at the turn of the fourteenth century.[38]

The dangers of working with a single coin hoard are manifest. However, in general terms, the Broach hoard evidence corroborates the impression one gathers from textual material. It indicates western India's strong connections with the Red Sea, as well as the fact that following monetary changes in Southern Europe and the Levant, trade in the western Indian Ocean came to be increasingly financed with gold in the fourteenth century. The mint cities represented in Table 15.6 provide ample evidence of the commercial links between Gujarat and the Levant via the Red Sea from the mid-thirteenth to the mid-fourteenth century. Finally, for all its limitations, it is consistent with the pattern of monetary exchange and currency circulation in western and northern India as well.

As we have said above, there is no evidence of any significant domestic extraction of gold and silver, and there was probably only a limited production of copper from the Rajasthan mines. It can be seen that the production of precious metal coins in the Delhi Sultanate was based to a significant extent on bullion supplied through trade with Central Asia, Iran, the Levant and Europe. Also, a part of the bullion reaching south India and the Deccan was brought to Delhi through military campaigns under 'Alā'uddīn Khaljī and Muḥammad Tughluq.[39] In addition, silver was brought to the core areas of the Sultanate through tribute from Bengal, which itself received it from Yunnan (China).[40]

As we have seen, silver and billon were the major currencies of exchange in the thirteenth and fourteenth centuries, but gold mintage increased in the first three quarters of the fourteenth century. The Broach hoard broadly attests to the latter phenomenon and points to the source and direction of the supply of gold money. So far, historians have laid emphasis on the internal dynamics of the Indian economy to evaluate changes in the form and level of monetary circulation. The Broach hoard suggests that changes in the circulating medium could also be caused by external variations in international trade and the pattern of bullion flows from Europe to the Islamic East and the Indian subcontinent.

THE CRISIS OF SILVER, DEFLATION AND THE DOMINANCE OF BILLON-COPPER COINAGE

The period subsequent to the interment of the Broach hoard coincides with the fall in the volume of silver money in the Delhi Sultanate, with gold following suit very quickly. As we saw, the weight of the silver *ṭanka* was reduced and it was soon replaced with a billon coin. The debasement of silver coinage was reflected in the unsuccessful attempt by Muḥammad Tughluq to establish a fiduciary currency. Billon and copper coins dominated north Indian markets from the last quarter of the fourteenth century, and a point was reached under the Lodi Sultans (AD 1451–1526) when precious metal coinage entirely disappeared from their

kingdom.[41] All references in the written sources to the use of the *ṭanka* in the fifteenth century belong to the billon variety, which also circulated under the specific names of the Lodi Sultans Bahlol and Sikandar (*ṭanka-i bahloli* or *ṭanka-i sikandari*).[42] Abu'l Fazl, the historian of the Mughal Emperor Akbar, describes the coinage of Sikandar Lodī (AD 1489–1517) as one of copper (*misin naqd*) blended with silver (*nuqra amez*),[43] and the assay results of *ṭanka-i sikandari* point to an average silver content of 7 to 8 grains.[44] In general, the streak of silver left in the billon coin earned it the designation of *ṭanka-i siyāh* (black *ṭanka*), while the pre-existing pure silver coins, which surprisingly remained in circulation despite irretrievable loss in wear and tear, came to be distinguished as *ṭanka-i nuqra* (silver *ṭanka*). Although the relatively richer Sultanate of Gujarat (established in 1403) continued to operate the tri-metallic currency system of Delhi, here too the weight of the silver *ṭanka* was permanently reduced to half to turn it into a coin that was later to gain wide reputation under the designation *maḥmūdī*.[45]

There has been some debate on what caused the transition from precious to base metal coinage in north India in the fourteenth century. The explanations offered differ in the emphasis they place on the internal dynamics of the political regimes on the one hand, and variations in external circumstances of money supply on the other. Since numismatic material only describes the phenomenon and does not explain it, attention has been focused on a solitary piece of literary evidence, which comes from a relatively late Persian text. According to the author of *Tārikh i Dāūdī*, the low prices of commodities in the reign of Ibrahim Lodī (AD 1517–26) were caused by a shift in the mode of revenue collection from cash (*naqd*) to kind. The chronicler also mentioned in the same passage that there was a paucity of gold and silver (*wujūd i zar u nuqra kamyāb shud*) in the Lodi kingdom.[46]

J.F. Richards has argued that the currency policies of the Lodī state were dictated by its inability to obtain gold and silver in raids and tribute, owing to the decentralized structure of the Afghan polity.[47] Richards attributed the enforcement of revenue collection in kind to the Lodi Sultan's motive of clipping the growing power of his nobles by denying them ready access to cash.[48] Richards does not explain how the disposal of surplus by the nobles was substantially different from the sales of grain by the peasants themselves to have caused such a cheap price of commodities in general. Also, the social status and the bargaining power of the nobles were likely to be greater than that of the ordinary peasants, and would have allowed them to obtain better prices in the market. This should have pushed the prices up. However, Richards' point about the circulation of silver in western India and Bengal and gold in the south, and the inability of the hinterland economies of the Sultanate to draw precious metals from the relatively rich currency regimes of the coasts deserve consideration.

Irfan Habib took a fresh look at the problem and suggested a two-fold explanation for the paucity of precious metal coinage: a worldwide shortage of silver, which compelled the state to offer concessions to peasants by not demanding cash,[49] and an imperfect adjustment of the mint and market ratios of silver coins. In an important observation, he questioned Richards' assumption that it was only the state which could mint coins, and pointed to the possibility of a decline in the stock of bullion held by the market and private individuals.[50]

It seems that one important factor behind the change from precious to base metal coinage was a severe crisis of silver in the regions aligned on the Indian Ocean–Mediterranean axis. Monetary historians of medieval Europe largely admit to a scarcity of silver in the late Middle Ages (1370–1450), prolonged and intense enough to be designated as 'bullion famine'.[51]

After the decline in silver production at the principal European mine at Kutna-Hora, no major source of silver opened up until the 1460s. The decline in mine and mint production, coupled with the irretrievable loss of silver in wear and tear and coin production, fear of instability, and debasement leading to increased hoarding and a fall in the supply of credit resulted in an acute shortage of silver coinage in Europe.[52] Soon the crisis impinged upon monetary circulation in particular and economic exchange in general as reflected in deflation, industrial depression and a rise in interest rates. Although the drain of bullion to the East continued, the inability of Europe to refurbish its pre-existing stock of money in order to service trade deficits may have led to a contraction in the flow of money-metals to the east, particularly silver. In a letter written to the Doge in 1473, the Mamluk Sultan complained that the silver brought to the port of Alexandria in Venetian galleys was so heavily alloyed with copper that it yielded only 40 per cent of fine metal.[53] The Mamluk sultanate too suffered from a crisis of silver and a fall in the volume of trade and exchange.[54] The precise impact of these crises on the volume and composition of the Indian Ocean trade is difficult to determine, but it can be argued that while precious metals retained their presence in maritime exchange, the proportion of gold increased at the expense of silver.[55] The fifteenth century was also the period in which we get evidence of a sizeable flow of copper coins (*fil*s) from Egypt and their employment in the Indian Ocean trade.[56] It is likely that much of this copper came from Europe till at least the first half of the sixteenth century.[57] Thus, it would seem that the crisis affected areas of silver currency much more than those of gold. South India maintained its gold standard in the fifteenth century and the region continued to maintain an export surplus by sending spices to the Levant.[58]

In the explanation offered by Habib, the gradual disappearance of silver from the hinterland currencies is held to be partly the result of a discrepant relationship between the mint and market values of silver. According to this, even in the absence of a fixed mint ratio, the coins struck out of silver, which as a metal appreciated in the market due to a decline in its supply, were undervalued at the inland mint, so that the suppliers found the transaction uneconomical. This imbalance was less persistent in the coastal regions because intermittent supplies of silver reduced its value in terms of other metals. Since silver was still retained at the port towns, its scarcity and high price in the inland markets helped to keep the suppliers away from the mint. In the long run, therefore, silver disappeared as a circulating medium in the hinterland.[59]

For monetary historians, this hypothesis is quite attractive for explaining not only the paucity of bullion in inland economies, but also for assessing the transition which took place in the currency system of Gujarat in the fifteenth century. Much of the supplies of precious metals by which the inland regions of northern India monetized their economies came from imports into Gujarat. To this was added their internal precious metal stock, accumulated over a long period of time through a positive trade balance. As long as Gujarat remained politically united to the Delhi Sultanate, the regional flow of precious metals through trade was supplemented by tribute payment.[60] Once the Sultanate of Gujarat assumed independence, the economic and political constraints on its monetary economy were lifted, and it began to evolve its own regional currency system. The Gujarat currency regime in the fifteenth century poses a contrast to the billon-copper based system of the inland regions in its attempts to retain the classical currency system of the Delhi Sultans.[61] However, in the fifteenth century, Gujarat too was affected by the crisis in silver supply, leading to a shortage of money in the

Sultanate. In 1428-29, the ruler of Gujarat reduced the salaries of his soldiers (*ulufat i sipahi*) from full cash payment to half in revenue assignments.[62] Subsequently, in 1459, Sultan Mahmud Begadha, in whose reign food grains prices were quite low, and who spoke contemptuously of the money-lenders for binding his soldiers into the shackles of their debts,[63] permanently reduced the weight of the Gujarat silver *ṭanka* from 177 grains to 88 grains (the new smaller coin being called *maḥmūdī*). It seems obvious, therefore, that while the inland economies went completely over to a system of base metal coinage, coastal regions such as Gujarat still hung on to their traditional maritime links and continued to attract silver, albeit in lesser quantities than in the previous two centuries. The rulers of Lower Sind, both the Jams and the Tarkhans, never issued coins in gold and silver and allowed *laris* of Hurmuz and Basra, and later the *reales* of Spain and Mexico to circulate freely in the market as legal tender.[64]

Habib's hypothesis, however, raises a couple of questions. If the trade balances between the ports and the hinterland were largely settled in gold and copper (mainly the latter), which were struck at the inland mints regardless of any relationship with silver, it would still leave unexplained the mono-metallic minting of silver (that is, silver brought inland from the coasts to be minted directly into silver coins). Also, why could the inland mints not attract silver by offering favourable rates in terms of minting costs alone? After all, there must have been large quantities of silver and gold in the form of hoards and ornaments, which could be monetized by the state and the market to meet transaction demands and so overcome the crisis of cash. Answers to these questions would require a deeper understanding of the economic organization of northern India in the fifteenth century, and the economics of currency production and exchange. Owing to the comparative scarcity of information directly bearing on these matters, we can only place these issues in the wider context of the money economy and foreign trade of the Delhi Sultanate.

The general impression gained from widely dispersed source material is that there was a correlation between the monetization of the exchange economy and foreign supplies of monetary media, and that the medieval money economy was obliged to function to a rhythm that was not entirely its own. The cyclical movement which gripped the economies of medieval north India began with the establishment of a fairly advanced level of monetary exchange in the thirteenth and fourteenth centuries. It coincided with an expansion in the circulation of European, Levantine and Iranian silver, which eventually found its way to India. The dependence of the medieval Indian monetary economy on foreign supplies was put to test by a crisis of silver supply in the late fourteenth and the fifteenth century, which drove the late Delhi Sultanate to switch over completely to a system of billon and copper coinage. The influx of gold and the ability of the coastal regions to obtain silver through maritime trade allowed them to maintain precious metal coinage, although a reduction in the weight of the Gujarat *ṭanka* suggests that here too the volume of bullion imports was susceptible to increases and losses imposed by foreign trade.

NOTES AND REFERENCES

1. The case for a decline in urban exchange network and monetization (AD 500–1200) was presented by R.S. Sharma, who linked it with the growth of feudal relations in the post-Gupta period when payments to the priests and officials in land grants became widespread (*Indian Feudalism*; and *Urban Decay in*

India, pp. 123–24). John Deyell, through a rigorous re-examination of numismatic evidence, demonstrated the presence of metallic money in much of northern India between AD 750 and 1250 in order to discount theories of demonetization (*Living Without Silver*). Insofar as the resolution of this issue rests on the relative importance of money (determined both by magnitude and value of the circulating medium) in the economies of the pre-Gupta and post-Gupta periods, Deyell's work is of little help, and one still feels inclined to accept Sharma's hypothesis and the extensive archaeological and literary evidence, apart from numismatic, advanced in its support. For a recent treatment of the subject, see Krishna Mohan Shrimali, 'Money, Market and Indian Feudalism', in Bagchi, ed., *History of Finance and Banking*, pp. 1–39.

A revival of urbanization and foreign trade in early medieval India fits in well with the information Deyelle has given on coinage from AD 1000–1200. See Gopal, *Economic Life* and B.D. Chattopadhyaya, 'Trade and Urban Centres in Early Medieval North India', in idem, *Early Medieval India*. Goitein's work on Geniza documents reveals brisk traffic between India and Levant in this period, and points to the export of gold and silver in exchange for Indian merchandise (Goitein, *Letters*,).

2. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 120.
3. Irfan Habib, 'Agrarian Economy', in Raychaudhuri and Habib, *Economic History*, I, p. 61; Irfan Habib, *Economic History of Medieval India*, pp. 3–11; Shireen Moosvi, 'Numismatic Evidence and the Economic History of the Delhi Sultanate', *Proceedings of the Indian History Congress*, Gorakhpur, 1991, p. 210.
4. Gupta, *Coins*, p. 88; Deyell, *Living Without Silver*, pp. 213–14; Marie Martin, 'The Reforms of the Sixteenth Century and Akbar's Administration: Metrological and Monetary Considerations', in Richards, *Imperial Monetary System*, p. 73. Assays conducted by the Calcutta mint suggest a high degree of metallic purity of 98 to 99 per cent in the *ṭanka*s issued *from* 1210 to 1320.
5. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, pp. 310-14; Sijzī, *Fawā'id ul Fuwād*, p. 83; Amir Kh<u></u>urd, *Siyaru'l Auliyā*, p. 516; Habib, 'Prices and Wages', in Raychaudhuri and Habib, *Economic History*, I, pp. 87–88.
6. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 280; Sijzī, *Fawā'id ul Fuwād*, p. 235.
7. Much of our information on the variety, metallic composition and exchange rates of the early Sultanate coins is derived from the unique Apabhraṁsha manual of Thakkura Pherū, a Khalji mint official, entitled *Dravya Pariksha*: *Thakkura Pheru Virachita Ratnaparikkshadi Sapt Granth Saṁgraha*, ed. Agar Chand and Bhanwar Lal Nahta, Jodhpur, 1961, pp. 1–38. The billon coins of Fīroz Tugh<u></u>luq are listed by 'Afīf, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 344. The best work on the numismatic evidence remains Nelson Wright, *Coinage and Metrology*.
8. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 318; Habib, 'Prices and Wages', pp. 87–88.
9. Cf. Wright, *Coinage and Metrology*. pp. 73–74, 77 and 79, for extant *yagānī* coins.
10. Sijzī, *Fawā'idu'l Fuwād*.
11. This appears from the price of a piece of cloth given in two renditions of the same work. Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 353, f. 144a (half *ṭanka*); text, p. 310 (24 *jital*). Also see Simon Digby, 'The Currency System', *CEHI*, I, pp. 95–96.
12. Niẓāmuddīn Aḥmad apparently refers to this coin when he says that, 'by this *ṭanka* is meant the *ṭanka-i nuqra*, which is slightly alloyed with copper, and equal in value to eight *ṭanka-i siyāh*'. Wright accepts this equation. Ferishta equates it with 16 *pul-i mis* (copper *dām*, and so worth half a *ṭanka-i siyāh*).
13. For the currency measures of this Sultan, see Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, pp. 474–75; Yaḥyā, *Tārīk<u>h</u>-i Mubārakshāhī*, pp. 102–03; Niẓāmuddīn Aḥmad, *Ṭabaqāt-i Akbarī*, I, pp. 199–203.
14. Pherū, *Dravya Pariksha*, pp. 37 (Table 29), 38 (verse 148); 'Afīf, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 344 (spelled *baiga* in the text by the addition of a stroke and the elision of two dots).
15. Pherū gives the list of the fractional pieces of copper in which the fifth part of the *paika* is called *visva* (lit. twentieth part, of a *jital*). This too gives the rate of 1 *jital* = 4 *paika*. Also see the testimony of the author of *Masālik al Abṣār* (Al-Umarī), Quatremere's tr. cited in Wright, *Coinage and Metrology*, p. 161 (1 *jital* = 4 *fils*, the Arabic plural for a copper coin).
16. We have the evidence of payments being made to the soldiers of Sikandar Lodi in copper coins (*pul-i siyah*), with the records kept in *ṭanka*. 'Abdullah, *Tārik<u>h</u> i Dāūdī*, p. 83.

17. Habib, *Caste and Money*, pp. 23–24; Wilkinson, *Egeria's Travels*, p. 206.
18. Spufford, *Money*, pp. 74–99, 109–21.
19. Ibid., pp. 136–38, 140–41.
20. Ibid., p. 149.
21. Magalhaes-Godinho, *Les finances de l'Etat Portugais des Indes Orientales (1517–1635)*, pp. 45–49; Steensgaard, *Carracks, Caravans and Companies*, p. 198.
22. Serjeant, 'Yemeni Merchants and Trade in Yemen', in Lombard and Aubin, eds, *Marchands et Hommes d'Affaires Asiatiques*, p. 65; Shihab, 'Aden in Pre-Turkish Times', in Broeze, *Gateways of Asia,* p. 27. For Jidda, see Mortel, 'Taxation in the Amirate of Mecca', pp. 11–12.
23. Goitein, *Letters*, p. 20; *Mediterranean Society:* I, pp. 341–42.
24. Waṣṣāf, *Tārīk<u>h</u>-i Waṣṣāf* , Bombay, III, p. 300.
25. Digby, 'The Currency System', pp. 100–1; J.F. Richards, 'Outflows of Precious Metals from Early Islamic India', in Richards, ed., *Precious Metals*, pp. 183–205.
26. O. Codrington, 'On a Hoard of Coins found at Broach', *Journal of the Bombay Branch of Royal Asiatic Society,* XV, 1882–83, pp. 339–70; Simon Digby, 'The Broach Coin-Hoard as Evidence of the Import of Valuta Across the Arabian Sea During the 13th and 14th Centuries', *JRAS*, no. 2, 1980, pp. 129–38.
27. Jere L. Bacharach, 'Monetary movements in medieval Egypt, 1171–1517', in Richards, ed., *Precious Metals*, pp. 165–66; Andrew S. Ehrenkreutz, 'Contribution to the Knowledge of the Fiscal Administration of Egypt in the Middle Ages', in Bacharach, *Monetary Change*, article no. XIX, p. 505; Rabbie, *Financial System of Egypt*, pp. 185–186.
28. Bacharach, 'Monetary Movements', pp. 167–68; Rabbie, *Financial System of Egypt*, pp. 189–92. Terence Walz, 'Gold and silver exchanges between Egypt and Sudan, 16th–18th centuries', in Richards, *Precious Metals*, pp. 309–10; Bovill, *Golden Trade*, pp. 87–88.
29. Lane, 'The Venetian Galleys to Alexandria, 1344', *Venetian Social and Economic History*, pp. 431–39.
30. Richard T. Mortel, 'Taxation in the Amirate of Mecca During the Medieval Period', *BSOAS*, LVIII, 1995, pp. 11–12.
31. Faẓlullāh, *Tārīk<u>h</u>-i Mubarak-i Ghāzānī*, pp. 284–85.
32. Digby, 'The Broach Coin-Hoard', pp. 132, 138.
33. A.P. Martinez, 'Regional Mint Outputs and the Dynamics of Bullion Flows through the Il-Xanate', *Turks, Hungarians and Kipchaks: A Festschrift in Honor of Tibor Halasi-Kun, Journal of Turkish Studies*, 8, 1984, pp. 123, 145; H. A. Manadian, *Trade and Cities of Armenia*, p. 195; Ashtor, *Near East*, p. 254.
34. Ashtor, *Levant Trade*, pp. 50–60; Spufford, *Money*, pp. 148–49.
35. Sheila S. Blair, 'The Coins of the Later Ilkhanids: Mint Organization, Regionalization and Urbanism', *The American Numismatic Society, Museum Notes*, 27, 1982, pp. 214, 218. The dirham struck by the Mongols of the Golden Horde ('asper') too found its way to Tabriz in large quantities. Martinez, 'Regional Mint Outputs', pp. 125, 145; Spufford, *Money*, p. 147.
36. Cited in Manadian, *Trade and Cities of Armenia*, pp. 196–97.
37. Ashtor, *Les Metaux Precieux*, pp. 31–39.
38. Ashtor, *Near East*, pp. 255–56.
39. Digby, 'Currency System', pp. 96–97.
40. Ibid., pp. 98-99; John Deyell, 'The China Connection: Problems of Silver Supply in Medieval Bengal', in Richards, *Precious Metals*, pp. 207–30.
41. Najaf Haider, 'The Lodi Coinage: Some Questions', *PIHC*, 52nd session, Gorakhpur, 1989, pp. 229–35.
42. <u>Kh</u>wāja Ni'matullāh, *Tarik<u>h</u>-i <u>Kh</u>ān Jahani wa Mak<u>kh</u>zan-i Afghānī*, I, pp. 31, 88, 164, 168.
43. Abū'l Faẓl, *A'īn-i Akbarī*, I, p. 296.
44. Thomas, *Pathan Kings*, pp. 359, 367; Wright, *Coinage and Metrology*, pp. 408–09.
45. Najaf Haider, 'Mughals and Mahmudis: The Incorporation of Gujarat into the Imperial Monetary System', in Pati et al., *Negotiating India's Past*.

46. Abdullāh, *Tārīkh-i Dāūdī*, pp. 104–05. For a translation of the passage, see Habib, 'Agrarian Economy', p. 67. [See Chapter 14 for a different interpretation of this passage.]
47. J.F. Richards, 'The Economic History of the Lodi Period', *JESHO*, VIII(1), 1965, reprinted in Subrahmanyam, ed., *Money and the Market*, pp. 141–50.
48. Ibid., pp. 150–55.
49. Habib, 'Agrarian Economy', p. 67. If prices were low because of the shortage of precious metals, it would have been unfavourable to the state to collect the revenue in cash if the demand was fixed in kind.
50. Habib, *Caste and Money*, pp. 26–27.
51. The case is most persuasively argued in Day, 'The Great Bullion Famine of the Fifteenth Century', *Medieval Market Economy*, pp. 1–54, esp. pp. 4–7. Also see Spufford, *Money*, pp. 339–62; John Munro, 'Bullion Flow and Monetary Contraction in Late-Medieval England and the Low Countries', in Richards, *Precious Metals*, p. 101.
52. Spufford, *Money*, pp. 339–62.
53. 'A Mamluk Letter of 877/1473', text ed. and tr. John Wansbrough, *BSOAS*, XXIV, 1961, pp. 206, 211–12.
54. For a mid-fourteenth century crisis of silver specie in Egypt, see Robert Lopez, Harry Miskimin, Abraham Udovitch, 'England to Egypt, 1300–1500: Long-term Trends and Long-distance Trade', in Cook, *Economic History of the Middle East*, p. 124.
55. The supply of Bosnian silver and Hungarian gold to Venice and that of West African gold to Spain, which eventually landed up in Venice, suggests that Venetian trade balances with the Levant continued to be settled in gold and silver in the fifteenth century. Louise Buenger Robbert, 'Monetary Flows—Venice 1150 to 1400', in Richards, *Precious Metals,* pp. 66–68, 72–75; Spufford, *Money*, pp. 343–44. Indeed, an important factor cited for the bullion famine is Europe's inability to replenish its precious metal stock after losing a substantial part of it to the Orient. Cf. Day, 'Bullion Famine', pp. 4–10. Ashtor calculates Western Europe's annual trade deficit to the East to the tune of 400,000 gold ducats (= 1423 kg of gold) in the late fifteenth century, which exceeded by about 30 per cent the combined average annual mint outputs of both England and Burgundian Low Countries. Ashtor, *Levant Trade*, pp. 510–11; Munro, 'Bullion Flow and Monetary Contraction', p. 101.
56. Jere L. Bacharach, 'Circassian Monetary Policy: Copper', *JESHO*, 19, 1976, p. 43.
57. Jean Aubin, 'Albuquerque et les negociations de Cambaye', *Mare-Luso Indicum*, I, 1971, pp. 44, 60.
58. A Meccan caravan of 3,000 camels carrying Indian spices (disembarked at Jidda) reached Aleppo in 1432. Halil Inalcik, 'India Trade', in Inalcik and Quataert, *Economic and Social History of the Ottoman Empire*, p. 317. We have already noticed the export of Indian indigo and textiles to the markets of Bursa. For a regular trade conducted by the Bahmani wazir, Mahmud Gawan, with Turkey in 1480, see Inalcik, 'Bursa and the Commerce of Levant', *JESHO*, III, 1963, p. 141. For south Indian currencies, see Sanjay Subrahmanyam, 'Precious Metal Flows and Prices in Western and Southern Asia, 1500–1750: Some Comparative and Conjunctural Aspects', *Studies in History,* n. s., VII(1), 1991, p. 85.
59. Habib, *Caste and Money*, pp. 27–28.
60. Digby, 'Broach Coin Hoard', p. 129.
61. The heavy silver *ṭanka* (177 grains) issued by the early Gujarat Sultans in the first half of the fifteenth century was a direct successor to the Delhi silver *ṭanka* both in weight and fabric.
62. Shaikh Sikandar ibn Muḥammad 'Manjhū', *Mirat-i Sikandari*, pp. 57–58. The measure was ascribed by a contemporary chronicler to the belief held by the Sultan that money was of no real worth (*barkat na-dārad*), and that it made the soldiers indebted and irresponsible.
63. Ibid., p. 104.
64. Ṭāhir Muḥammad 'Nisyānī', *Tārīkh-i Ṭāhirī*, p. 170. For the Jāms, see Simon Digby, 'The Coinage and Genealogy of the Later Jams', *JRAS*, no. 2, 1972, pp. 125–26.

CHAPTER 16

Foreign Trade of India

Najaf Haider

Foreign trade is essentially an extension of economic exchange beyond the limits of geographical frontiers in order to dispose of surplus product and fulfill the internal consumption demand. Due to its large agrarian and industrial base, efficient fiscal and monetary institutions and highly skilled mercantile groups, India's foreign trade in the fourteenth and fifteenth centuries occupied a prominent place in the global network of exchange. Before the fascination with New World treasure began, the most exciting proposition for merchants around the world was trade with India and China. Traffic in eastern products sustained the seasonal movements of caravels and caravans across three continents and motivated merchants and middlemen to circumvent the vagaries of medieval bazaars. India's foreign trade in the fourteenth and fifteenth centuries had a durable structure in terms of trade routes, commodity composition, and the collateral of small and big merchants. Another permanent feature of India's foreign trade was its constant favourable balance of payments, which helped it acquire specie and monetary metals to expand the domain of commercial exchange.

INDIAN PORTS AND ENTREPÔTS FOR FOREIGN TRADE

India's foreign trade was conducted along a spectrum of land and sea routes that criss-crossed a string of cities serving as entrepôts for regional and international trade. The land route linked north Indian plains with Afghanistan, Turkestan, Khurāsān, western Iran, Iraq and the Levant. Both Indian and foreign merchants were active on these routes with their caravans travelling back and forth. The choice of a route by a merchant was dictated essentially by three considerations: the length of travelling time, safety of person and of the goods and money one carried, and transaction costs. Time was an important element, insofar as any round trip could claim the best part of the year, and goods had to be purchased and kept ready for shipment in the right season. And time had to be weighed against security and costs. The land route, despite the convenience of obtaining sustenance during passage, often involved a longer duration for the merchandise to reach the market.[1] The shortest land route between

Isfahan and Agra, via Bhakkar and Ajmer, took two months on horseback—including compulsory halting days—but was least frequented by caravans due to the difficult passage through the Thar desert. The most preferred route from Isfahan was the much longer one, via Qandahar, Kabul and Lahore, which took double the time.[2]

Multān was an important frontier city of India in the north-west, through which much of the caravan trade was conducted in the fourteenth and fifteenth centuries. Strategically located near the confluence of the rivers Ravi and Chenab and not far from the mountain passes leading to Kabul, Ghazni and Qandahar, Multān was the biggest entrepôt for Indian as well as foreign goods, particularly those arriving from or through Afghanistan. Mas'ūdī, historian, geographer and traveller of tenth-century Baghdad, mentions Multān as a place where caravans from Khurāsān assembled.[3] In 1249–50, Minhāj Sirāj travelled to Multān in order to despatch slaves to his sister in Khurāsān.[4] Ibn Baṭṭūṭa found it to be a market for horses, imported from as far as the Russian steppes.[5] Multān was in fact a centre where foreign merchants sold imported horses and bought Indian slaves for export—though the latter practice was forbidden under Fīroz Tughluq.[6]

The Indian overseas trade was conducted with two important maritime zones of the Indian Ocean. The western coast of India, stretching from Sind to Malabar, was linked with the ports of the Persian Gulf, Red Sea and East Africa. The eastern coast, running from Bengal to Coromandel but including the Malabar ports, was linked principally with South-east Asia and China. Huge Chinese ships known as *jank*s sailed to Malabar;[7] and the ships of Gujarat merchants brought Chinese goods to the markets of the western coast.[8] Indian goods were also carried to the Spice Islands in port-to-port trade, to be exchanged for condiments, Chinese silk and ceramics. On the western coast, the four principal entrepôts were Lahari Bandar, Cambay, Quilon and Calicut. Lahari Bandar had a large harbour where ships from Iran and Arabia anchored, and so generated considerable revenue from foreign trade.[9] Cambay and its outer ports, Gandhar and Gogha, have been described by Ibn Baṭṭūṭa.[10] Tom Pires, the Portuguese ambassador to China (1512–15), practically summed up the trade geography of India when he described Cambay as the city with two outstretched arms, one leading towards the Islamic east and Europe and the other towards South-east Asia and China. These were indeed the two principal zones with which the foreign trade of India flourished in the fourteenth and fifteenth centuries.[11] Since Cambay was an important centre also for goods brought from South-east Asia for shipment to the markets of Iran, it traded briskly with Malacca. At the turn of the sixteenth century, there were 'a thousand Gujarat merchants in Malacca, besides four or five thousand Gujarat seamen, who came and went'.[12] Indian and foreign merchants settled in Gujarat sailed many ships to Aden, Hurmuz, Pegu, Siam and Malacca.[13]

The major hub of oceanic trade in this period was represented by the series of ports along the Malabar coast. Here, according to Marco Polo, ships congregated from many quarters; but those that trafficked with the East, that is, with China and South-east Asia, dwarfed 10 to one those that trafficked towards the west, that is, with West Asia and the Mediterranean.[14] It is, however, Ibn Baṭṭūṭa, who some 40 years later gives the most detailed account of the Malabar ports, with accounts of the Chinese *jank*s that visited it.[15] He held Quilon and Calicut to be equals of Alexandria, and deserving to be counted among the five great ports of the world.[16]

The Timurid envoy to the court of Calicut, 'Abdur Razzāq, described the city as a meeting point of 'merchants from every city and every country'.[17] Razzāq was particularly

impressed with the sound administrative and fiscal arrangements made by the king of Calicut, Samudri Raja (Zamorin), for the conduct of business:

> Security and justice are so firmly established in this city, that the most wealthy merchants bring thither from maritime countries considerable cargoes, which they unload, and unhesitatingly send into the markets and the bazaars, without thinking in the meantime of any necessity of checking the account or of keeping watch over the goods. The officers of the custom house take upon themselves the charge of looking after the merchandise, over which they keep watch day and night. When a sale is effected, they levy a duty on the goods of one-fortieth part; if they are not sold, they make no charge on them whatsoever.[18]

Navigation along the west Indian coast was, however, afflicted by fleets of pirate ships, which carried pirates along with their families: their tradition was to seize the goods of the merchants, but let the merchants go free thereafter.[19] Ibn Baṭṭūṭa had the unhappy experience of his vessel being seized by pirates near Hanovar: he lost his belongings, but was allowed to disembark along with the other passengers unharmed.[20]

TRADE ROUTES WESTWARDS

If we take a long-term view of the trade routes which gave the Mediterranean world its access to the Orient, it would appear that the Persian-Gulf passage to India had begun to decline from the thirteenth century onwards, possibly due to the Mongol invasion and destruction of Baghdad (1258) as well as the devastation by the Mamluks of the port towns on the Syrian coast, in possession of the Crusaders (1291). The Papal prohibition, after the fall of Acre in the same year, also influenced the choice of trade routes by European merchants. Crushed between the Mamluks and the Mongols, the celebrated Sindbad route gave way to its Red Sea rival, which came to dominate the east-west trade for many centuries.

The Aden–Alexandria axis of the Red Sea is described by Tom Pires just about the time when the impact of the Portuguese control of the direct sea route to Europe was beginning to be felt on the Indian Ocean trade:

> The merchandise which these people [Egyptian merchants] take to India comes from Venice in Italy. It comes to Alexandria, and from the Alexandria warehouses it comes by river to the factors in Cairo, and from Cairo it comes in caravans with many armed people. It comes to Tor, but this is not often, because on account of the nomad robbers they need many armed people to guard the merchandise. But at the time of the Jubilee (*Jubileu*), which is held every year in Mecca on the first day of February, when many people come, [the merchandise] is sent to Mecca with them. And from there it comes to Jidda and from Jidda it comes to the warehouses they have in Aden and from Aden it is distributed to Cambay, Goa, Malabar, Bengal, Pegu and Siam.[21]

The Levant had been channelling eastern commodities to Europe in exchange for gold and silver since Roman times. Indian merchandise was shipped first to Aden and then to the

East African port of Ayzab, from where it was taken by caravans of camels and slaves to Qus and Fustat, the two prominent market and mint towns in Upper Egypt.[22] It was eventually sold by a group of Egyptian merchants, the Karims, to their counterparts from Venice, Genoa, Marseilles and Barcelona at their factories (*fanādīq*) located in Ayzab, Qus, Fustat and Alexandria.[23] Big banyas of India entered into partnership arrangements with the leading Karims for the passage of goods between Aden and Alexandria.[24] From the second half of the fourteenth century, following the decline of Ayzab (due to tribal disturbances in the Eastern Desert) and a further decline of the overland route via Iraq and Iran after the collapse of the Il-khanate, the Aden-Jidda-Tur route became the main artery of Indian Ocean commerce with the Levant.[25] Tax revenues generated at Jidda and Aden from the Indian Ocean trade in the first quarter of the fifteenth century increased so substantially that the cash-strapped Mamluk government annexed the Amirate of Mecca. Aden had been, and continued to be, the principal port of call, and the amount of money collected in customs duties was many times higher than the revenue of Jidda.[26] The annual pilgrimage (*ḥajj*) caravan from Damascus also brought merchants to Aden to run a parallel land trade alongside the maritime routes of Tur and Ayzab.[27] There were ports along the south Arabian coast, like Ash-Shihr and Dhofar, from which horses and honey were exported to India, which, in return, exported rice, the trade being, apparently, mainly with Malabar ports.[28]

The trade between India and Iran on the land route from Tabriz and by the Persian Gulf was active enough for Italian merchants to establish a direct link with India and China using Tabriz as their headquarters.[29] Venetian documents reveal that, in an attempt to explore the opportunities for regular trade, some merchants of Venice travelled to Delhi to sell their goods to Sultan Muḥammad Tughluq.[30] We also know that the Genoese had their own ships in the Indian Ocean and, in order to compete with their adversaries, wanted to divert the India trade from the Red Sea to the Persian Gulf with the help of the Il-Khans.[31]

In the Persian Gulf, Hurmuz (Hormuz) was the most important entrepôt for the international exchange for goods which were either bartered or purchased with money. The rise of Hurmuz in the thirteenth century followed the decline of the neighbouring entrepôt of Qays, where there was a community of Gujarati Bohra merchants. In an early fourteenth-century narrative we have an account, interspersed with comments of a seventeenth-century Portuguese traveller, of the former glory of Qays, and the recent one of Hurmuz.[32] Marco Polo, visiting it no later than 1295, spoke of Persian horses being exported to India, which in exchange exported 'spicery, and precious stones, pearls, cloths of silk and gold, elephants' teeth and many other wares'.[33]

Gold and silver brought to Hurmuz were non-taxable items. The presence of merchants from Gujarat, Deccan and Bengal was noticed here by 'Abdur Razzāq, who himself sailed from Hurmuz to Calicut.[34]

In the fourteenth and fifteenth centuries, trade between India and East Africa was based primarily on the exchange of gold from southern Zambia and ivory from the coastal hinterland of East Africa for cotton cloths from India.[35] The rise of the Sultanate of Gujarat in the late fourteenth century may have strengthened the position of the Gujarati merchants trading in this sector.

While oceanic routes probably carried the bulk of India's westward trade, it is important not to forget the trade carried overland. The Mongol conquests of the thirteenth century caused

much destruction, but once Mongol authority was established, a good deal of encouragement was given to commerce. When the Mongol army appeared before Lahore in 1241–42, the merchants of the city took no interest in its defence because most of them had obtained *pāiza* or Mongol tablet containing a guarantee of safety for their commerce with Khurāsān (eastern Iran) and Turkestan (Central Asia).[36] Horses were a major item of export from these lands and from as far as the Golden Horde, Multan being the major entrepôt for this trade'.[37] When Minhāj Sirāj was coming to India, he thought it prudent to go to Farah (now in western Afghanistan) to buy silk to bring to India for profit.[38] From India, a major item of export was slaves. From Multān in 1250, Minhāj Sirāj sent 40 slaves to Khurāsān as a means of providing a source of sustenance for his sister.[39] Shaikh Niẓāmu'ddīn relates how a sufi from Bengal made a large profit on a modest capital by carrying Indian slaves to Ghazni for sale.[40] Ibn Baṭṭūṭa tells us that the Hindukush mountains got their name because Indian slaves died in large numbers in its passes from cold as they were forced to traverse the high passes of the range.[41] 'Ainu'l Mulk, governor of Multān, said scornfully that the foreign merchants' object was to sell horses to Hindus and to take Indian slaves to Khurāsān.[42] The distances over which goods were taken were immense. According to a merchant who traded in those parts, the journey from Tirmiz on the Oxus to Karakuram ('Qārāquram') in Mongolia took six months—along what modern historians call the Old Silk Road.[43] Ibn Baṭṭūṭa does not give the time it took for the horses from the Golden Horde in southern Russia to reach Multān and Sind, but it could surely not have taken less than six months.

TRADE ROUTES EASTWARDS

It may at first sight appear that the pattern of oceanic routes eastwards mirrored the one we have just described. For Mediterranean Europe as the terminal point, we have here China; and for the intermediate zone of the Levant and Egypt, we have here the Indonesian Archipelago and Malaya. But there are two major points of difference. Only a part of cargoes carried from India westwards ended in Europe, the bulk of Indian trade westwards being with the intervening Islamic world. On the other hand, in the twelfth to the mid-fifteenth century it was China, not South-east Asia, that was India's major trading partner in the east, the trade with South-east Asia being subsidiary to the China trade. The second difference was of size. As we have seen, Marco Polo was clear that India's eastward trade absolutely dwarfed the trade westwards. China was, then, the world's major industrial and commercial powerhouse, and was the magnet which drew to itself commerce from all parts of the world. There was also a further point to consider. Commerce with China needed no trans-shipment, since ships could sail from and to China directly without any obstruction from land. There was no such possibility of direct navigation to Europe until the long route around the Cape of Good Hope was discovered towards the end of the fifteenth century.

We do not know when Chinese ships began to call directly on Indian ports. It may be noted that Chau Ju-Kua in his *Chu Fan Chih* (Records of Foreign Peoples [and their Trade]), written in 1225, refers only to ships from South-east Asia and from 'Tashi' (Arab-Iranian) countries calling at Malabar ports, and those of 'Tashi' alone at Gujarat ports. Assuming that this writer was basing himself on reports of a little earlier time, one may infer that Chinese ships did not yet directly call on Indian ports before the thirteenth century.[44] But well before

the end of the thirteenth century, Chinese ships were directly sailing to Indian ports; Marco Polo in the early 1290s travelled in a Chinese fleet that called on south Indian ports, beginning apparently with Cail (Kāyal) in the Gulf of Mannar,[45] and then on to the Persian Gulf ports of Ilkhanid Iran. In 1313 Waṣṣāf spoke of 'the large ships, called *jank*' which voyaged between China and India, especially Ma'bar (south India).[46] Rashīdu'ddīn in his celebrated *Jāmi'ut Tawārikh*, written about the same time, makes an identical statement.[47] But it is Ibn Baṭṭūṭa's account of his encounter with Chinese ships on West Indian ports that gives us a vivid impression of how numerous these large ships calling on the Malabar ports at that timewere.[48] Chinese ships also called at Bengal ports: Ibn Baṭṭūṭa himself boarded a 'jank' at Sonārgāon which was sailing to Sumatra.[49]

The first part of the fifteenth century was an epic period in Chinese maritime history. In the summer of 1406, Zheng He, an Imperial admiral, sailed in a fleet of 62 ships and 27,800 men to call on ports in Champa, Java and Sumatra, finally reaching Calicut. After this voyage was completed in 1407, he sailed to Indian ports and beyond, reaching the Red Sea and the east African coast. Ships from his fleet separated to call at ports in Bengal and Gujarat. These voyages continued until 1433. The geographical and commercial information gathered on these voyages was collected by his secretary Ma Huan in his *Yingai Shenglan* (1451).[50] Partly because of the large financial expenditure, and partly, perhaps, because of fear of foreign influences, the Ming government suddenly abandoned the great naval enterprise, and Chinese ships began to appear less and less frequently at Indian ports, until the increasing presence of the Portuguese after 1498 shut out their voyages altogether.

The ports in the intermediate zone in South-east Asia, where Chinese ships on their return voyages from India's western coast and Sri Lanka called were those of Sumatra, Java and Champa.[51] The ship carrying Ibn Baṭṭūṭa from Sonargaon in Bengal called at a Burmese port (unidentified), and then at Sumutra (Semudera) in Northern Sumatra, which was then called 'Java' by foreigners. From here he sailed on another ship to Qāqūla (unidentified) in Mūl Java (Java proper).[52] Since the veracity of the celebrated traveller's voyage to China from here onwards is rather dubious, we cannot follow him from here any further.

The major port in China from where ships sailed to India was Hangzhou, called Zaitun by foreigners, in the Fujian province of China.[53] It was reputed to be one of the greatest ports of the world.[54]

There were also connections between eastern India and China by the land routes, though these were perhaps far more difficult than the longer Central Asian Great Silk Road. In the mid-eighteenth century, Minhāj Sirāj tells us of a great mart at Karampattan on the route between Kāmrūp (western Assam) and Tibet, where Tangan horses to the number of 1,500 were sold (daily?) to be taken to Lakhnauti in Bengal.[55] There was overland trade with another province of China, namely Yunnan, which exported horses to India and imported cowries.[56]

MERCHANDISE AND SPECIE

The three principal items of export from India in the fourteenth and fifteenth centuries were spices, textiles and indigo. To this list, one can add slaves, rice, sugar and aromatic substances. Pepper was the main spice exported from Malabar, followed by ginger. Grown on the western slopes of the Ghats in Malabar, pepper was also cultivated in gardens along the

coast. Pepper and ginger were bartered for rice by merchants at Calicut and other ports of Malabar.[57] The biggest market for Indian spices after China (until the mid-fourteenth century) was Europe, where the supply reached in three stages. Merchant ships loaded with pepper sailed to Aden, Jidda and Hurmuz, from where the spice changed hands to reach Alexandria, to be finally shipped across the Mediterranean in Venetian galleys. In the fifteenth century, the Mamluk Sultan of Egypt, Barsbay, encouraged the spice ships to bypass Aden and sail directly to Jidda to reduce transaction (protection) costs, inflated by the exactions of Yemeni authorities, and obtain the supply of pepper at cheaper rates. In 1424, an Indian merchant, Ibrāhīm, was probably the first to bring his ship directly to Jidda from Calicut, and soon Chinese junks were also seen anchoring in that harbour. Prices of pepper sold by Venetians declined significantly as a result of this policy.[58] The Portuguese policy of monopolizing the spice trade and diverting its supply away from Hurmuz pushed pepper prices up in the Asian, African and European markets in the first quarter of the sixteenth century.[59] However, the Venetian spice trade was never ruined, and the Levantine traffic revived as a result of a shift in the Portuguese policy, from monopolizing the Indian Ocean trade to taxing it.[60]

The reference to indigo (*nīl*) in the account of an early fourteenth-century Il-Khanid historian, Shihābuddīn Waṣṣāf, locates another important item of export to Iran from India.[61] Indian indigo and cotton textiles were already exported from Gujarat to Ta-shi or Arab countries, according to Chau Ju-Kua (1225), and they similarly reached the Ottoman city of Bursa in the late fifteenth century by the Red Sea.[62] Indigo and a variety of cotton and silk fabrics produced in Gujarat were exported by the Indian and Arab merchants from Cambay to Arabia and East Africa.[63]

Slave trade was an established feature of medieval economic life. Slaves were required for military purposes, domestic service, manual labour and craft production.[64] Male and female slaves were acquired as captives in wars and predatory raids or bought in the market. The export of Indian slaves to Central Asia has a long history.[65] Slaves were perhaps the only item of India's foreign trade in the fourteenth and fifteenth centuries that figured among both exports and imports. A fourteenth-century deed of endowment (*waqfnama*) from Bukhara lists Indian slaves, and a similar document from the fifteenth century mentions a group of Indian slaves working as agricultural labourers and artisans on an estate near Bukhara.[66] Whenever the internal demand for slaves outstripped their supply, the export trade was affected. Prices of slaves were regulated by the Delhi Sultan, 'Alā'uddīn Khaljī (1296–1316); and Fīroz Tughluq (1351–88) banned the export of slaves out of the Delhi Sultanate apparently to keep their prices down.[67] As for the external trade in general, it may be possible to largely agree with the observation that Indian imports in the fourteenth and fifteenth centuries can be broadly classified into goods and species, of which the share of the latter was much higher. This was due to the limited demand for foreign goods, generally ascribed to the ability of the Indian economy to meet its internal needs from local and regional trade at a lower cost.[68]

Yet, some items could not be produced at home, such as horses. Horses were required for military purposes, but also for pleasure-riding and racing. As the Indian climate was not suitable for breeding horses of superior quality, these were imported from two zones respectively by land and sea. Turkish horses, bred in the steppes of Turkestan and southern Russia, were brought overland, whereas Iranian and Arab horses came mainly by sea. The South Russian city of Azov (Tana) was a major supplier of horses to northern India via Sind and Multan. The horses, reared by pastoral nomads of the Kalmuk and Qazaq steppes and

reputed for their strength and stamina, came in thousands. The price quoted by Ibn Baṭṭūṭa for the cheapest horse of this variety (100 silver *tanka*s), at a time when customs duties were reduced by Muḥammad Tughlaq, is the same as given by Barani for early fourteenth-century Delhi.[69] Their prime cost, assessed by Ibn Baṭṭūṭa at about four silver *tanka*s (one Moroccan *dinar*), suggests that the gross profit was quite high on the sale of these horses, despite the costs of the long journey from the horses' breeding grounds.

Arab and Iranian horses were shipped from Zufar (Dhofar) and Hurmuz to the western coast of India, to be sold mainly in the markets of the Gujarat kingdom and the Vijaynagara Empire.[70] In the fifteenth century, the political conflict between the Vijaynagara Empire and Bahmani kingdom created additional demand for Iranian and Arab horses. Some horses were shipped directly from Hurmuz to these regions, while others were first bartered for rice and sent to Dabhol, Chaul and Goa, from where they were resold for gold.[71] Central Asian horses were also imported into the Delhi Sultanate through Kabul, Sind and Multan.[72] During the reign of Sikandar Lodi (1489–1517), the merchants of Sind found it profitable to buy horses from a region lying to the north (*mulk-i bālā*) and bordering Iran (*sarḥad-i wilāyat*), after selling peacock feathers for silver coins, called Shahrukhi.[73] From Kabul, 7,000–10,000 horses were annually exported to India at the turn of the sixteenth century.[74]

Slaves were imported into India in some numbers from Central Asia.[75] Afghanistan, Turan and Khurāsān were the regions from where supplies of fruits and dry fruits came to India. Plums of Bukhara, melons of Khwarizm and almonds of Kand-i Badam (near Khujand) were imported into northern India by land.[76]

The commodities which came from Europe through the Red Sea included quicksilver, vermilion, rosewater, camlets, scarlet-in-grain, coloured woollen cloth, glass beads, weapons, and the three monetary metals, gold, silver and copper.[77]

As to the commodities involved in the commerce with China, India mainly imported high-quality silk and porcelain or Chinaware.[78] Copper was exported from China in such quantities as to be used as ships' ballast.[79] Horses were exported from China's south-eastern borderlands.[80] To these exports were added elephants, carried from South-east Asia to Indian ports.[81] Cloves coming on 'eastern ships' calling at Malabar ports must have originated in eastern Indonesian islands.[82] As to India's own exports, the great concourse of Chinese ships in Malabar ports can be explained best by the desire to import large quantities of pepper into China. Each great Chinese ship was, indeed, believed to be capable of carrying 5,000 or 6,000 baskets of pepper, with smaller ships attached to them, carrying 1,000 baskets each.[83] For one ship laden with pepper that took pepper destined to Christendom, 100 ships took it to China, Marco Polo says![84] Areca nuts were also exported to China.[85] From India also went fine varieties of cotton cloth, which constituted a large part of the gifts proposed to be sent by the return embassy from Delhi to China.[86]

The Indian demand for gold, silver and copper, in minted and metal forms, as the most favoured means of settling trade balances, was inextricably linked to the operations of its exchange economy and the process of monetization. It is reasonable to assume that the money collected in port revenues was only a small portion of what was obtained for commodities, and that India-bound ships carried a variety of currencies after concluding the sale of merchandise so as to commence a fresh cycle of purchases. Letters and legal documents of the Geniza collection, studied by Goitein, reveal that the general movement of specie from

the west (Europe, North Africa and Egypt) to the east (India and the Orient) was a permanent feature of the India trade in the twelfth and thirteenth centuries.[87] A similar statement was made by Waṣṣāf, who described as a special feature of India (*waṣf-i Hind*) its exports of spices, perfumes, and indigo in exchange for gold and silver (*zar o sīm*) and other merchandise and rarities. Waṣṣāf also held that gold and silver money acquired through trade was never exported out of the country.[88] Although there was an outflow of gold and silver from India to import horses and Levantine textiles,[89] there can be little doubt that India's overall trade balance was constantly favourable enough to generate a steady flow of bullion into India.

In the fifteenth century, India imported large quantities of Iranian gold and silver coins, *ashrafi* and *lari*. Disseminated from Hurmuz and Basra, the *lari* became an important currency of coastal trade in Sind, Gujarat and western Deccan. According to Barbosa (1516), some amounts of *ashrafi*s and *lari*s (*tanga*s) of Hurmuz were retained by the Indian merchants after they had sold their goods and bought horses, hoping to circulate them in India at a better value.[90] *Lari*s of Hurmuz (100,000 in number) formed the cargo of a Cambay-bound ship plundered by the Portuguese in 1521.[91]

Merchants and Mercantile Organization

Trade routes, entrepôts, merchandise and money laid the material foundation of the global network of exchange. The mercantile economy became active and organized due to the presence of diverse merchant communities working with numerous artifices of trade. The largest group of merchants in pre-modern India belonged to a sub-division of the Vaishya caste known as Banya. The Banyas specialized in various branches of commerce, such as commodity trade, brokerage, money-changing and banking.[92] The merchants of Gujarat, notably Banyas, and their trade practices are described in an early sixteenth-century European account. It can be seen that merchants were known for their calculative methods, and those who were big operated with factors or correspondents:

> I now come to the trade of Cambay. These [people] are [like] Italians in their knowledge of and dealings in merchandise. All the trade in Cambay is in the hands of the heathen. Their general designation is Gujaratees, and then they are divided into various races—Banians, Brahmans and Pattars. There is no doubt that these people have the cream of the trade. They are men who understand merchandise; they are so properly steeped in the sound and harmony of it, that the Gujaratees say that any offence connected with merchandise is pardonable. There are Gujaratees settled everywhere. They work some for some and others for others. They are diligent, quick men in trade. They do their accounts with figures like ours and with our very writing. They are men who do not give away anything that belongs to them, nor do they want anything that belongs to anyone else; wherefore they have been esteemed in Cambay up to the present, practising their idolatry, because they enrich the kingdom greatly with the said trade …. Those of our people who want to be clerks and factors ought to go there and learn, because the business of trade is a science in itself which does not hinder any noble exercise, but helps a great deal.[93]

The Bohras of Gujarat were partners of the Banyas in the network of foreign trade. The Muslim Bohras were descended from that section of the mercantile population of Gujarat (probably of the Vohra caste) which converted to Ismailism in the eleventh century and later split to form the Sunni sect in the fifteenth century.[94] Other Vohras remained Jains and Hindus. There was a community of Bohra merchants in Qays, active in the trade of Iran. A key feature of the financial restructuring of Il-Khanid Iran under Ghazan Khan (1295–1304) was the institution of a partnership between the state and the Bohra merchants of Qays, who handled the trade in bullion and merchandise in the Indian Ocean.[95]

Multān, both the city and the region situated between the Punjab and Sind, produced a vibrant toponymic mercantile community. The Multānis financed foreign trade in their city by extending money loans to merchants for their cash purchases, which were later paid with interest.[96] The Multānis in Delhi also lent money on interest to high state officials against drafts (*qabẓ-hā*) drawn on the revenues of their assigned territories (*iqtā'*).[97] In the early fourteenth century, the merchants of Multān were employed by the state on a contractual basis to supply foreign goods to a designated market of Delhi.[98] They prospered from the partnership and must have gained further in terms of capital accumulation and trade operations.

Communities of foreign merchants were also active in the India trade. Some of them were settled in India, while others operated between long-distance markets from their home countries. Arab merchants from Cairo were settled in Gujarat along with those from Gilan, Khurāsān, Hurmuz and Aden, 'all of whom do a great trade in the seaport towns of Cambay; but none of these count in comparison with the heathens, especially in knowledge'.[99] Ibn Baṭṭūṭa also found large communities of Chinese merchants settled in Malabar ports.[100]

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1. Dunlop, *Bronnen tot de Geschiedenis*, I, pp. 482–94.
2. Tavernier, *Six Voyages*, I, pp. 69–80; *Travels in India*, I, p. 73.
3. Humaira Faiz Dasti, 'Multan on the Eve of the Mughal Invasion', *Journal of the Pakistan Historical Society*, 43(II), April 1995, p. 159.
4. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, I, p. 483; II, pp. 38, 60–62.
5. Baṭṭūṭa, *Riḥla*, pp. 327–28, tr. Gibb, II, pp. 478–79. The Russian steppes were then under the control of the Mongol Golden Horde.
6. Māhrū, *Inshā'-i Māḥrū*, pp. 212–13.
7. These ships are described by Marco Polo. See, Marco Polo, *Ser Marco Polo*, II, pp. 249–51, and Ibn Baṭṭūṭa, *Riḥla*, pp. 564–66, tr. Husain, pp. 190–91.
8. Curiously, however, Idrīsī, *Nuzhat al-Mushtāq fi Ikẖtarāqu'l Āfāq*, (portion relating to India and Neighbouring Countries), pp. 57–58, writing in 1154, says Chinese vessels, as well as those of Sind, called at the port of Baruch (Broach).
9. Baṭṭūṭa, *Riḥla*, p. 401, tr. Gibb, III, p. 602.
10. Ibid., pp. 550, 552–53, tr. Husain, pp. 172, 175–77. See also Marco Polo, *Ser Marco Polo*, II, p. 398.
11. Tom Pires, *Suma Oriental*, I, p. 42.
12. Ibid., p. 45.
13. Ibid., p. 42.
14. Marco Polo, *Ser Marco Polo*, II, pp. 235, 389–90.
15. Ibn Baṭṭūṭa, *Riḥla*, pp. 560–67, tr. Husain, pp. 185–92.
16. Ibid., 20, tr. Gibb, I, p.19.

17. 'Narrative of the Journey of Abdu'r-Rezzāq, Ambassador from Shah Rokh, A.H. 845, A.D. 1442', tr. from the Persian in Major, *India in the Fifteenth Century*, p. 13.
18. Ibid., p. 14.
19. Marco Polo, *Ser Marco Polo*, II, p. 389.
20. Ibn Baṭṭūṭa, *Riḥla*, pp. 608–09, tr. Husain, p. 232.
21. Pires, *Suma Oriental*, I, pp. 12–13.
22. Jubayr, *Travels*, pp. 57, 61, 63. The traffic was so voluminous that Ibn Jubayr described, as a characteristic feature of this route, loads of spices thrown down unguarded by the sickness of camels. It is also mentioned (p. 65) that coconut fibre and wood was brought from India to be used in making vessels at Ayzab.
23. Al Khazraji, *Pearl Strings*, p. 261; Walter J. Fischel, 'The Spice Trade in Mamluk Egypt', *JESHO*, I, 1958, repr. in Pearson, ed., *Spices in the Indian Ocean World*, pp. 161–64; Ashtor, *Levant Trade*, p. 73.
24. Subhi Y. Labib, 'Capitalism in Medieval Islam', *Journal of Economic History*, XIX, 1969, pp. 82–83.
25. Yajima Hikoichi, 'On the Date of Decline of Aydhab, an International Port of Trade on the Red Sea', *Journal of East West Maritime Relations*, I, 1989, p. 167; Richard T. Mortel, 'Taxation in the Amirate of Mecca During the Medieval Period', *BSOAS*, LVIII, 1995, p. 7; Pires, *Suma Oriental*, I, p. 12.
26. On Aden and the pepper brought to it from Indian ports for transhipment to Alexandria, see Marco Polo, *Ser Marco Polo*, II, p. 438. Mortel, 'Taxation in the Amirate of Mecca', pp. 9–10; Robert Bertram Serjeant, 'Yemeni Merchants and Trade in Yemen. 13th–16th Centuries', in Lombard and Aubin, eds, *Marchands et Hommes*, p. 65; Hassan Salih Shihab, 'Aden in Pre-Turkish Times (1232–1538): The Arabian Entrepot of West Asian Seas', in Broeze, *Gateways of Asia*, p. 27.
27. Mortel, 'Taxation in the Amirate of Mecca', pp. 6–11.
28. Marco Polo, *Ser Marco Polo*, II, pp. 442–44; and Ibn Baṭṭūṭa, *Riḥla*, pp. 259–60, 265, 271, tr. Gibb, II, pp. 382, 389, 396.
29. Ashtor, *Levant Trade*, p. 61.
30. R.S. Lopez, 'European Merchants in the Medieval Indies: The Evidence of Commercial Documents', *Journal of Economic History,* III, 1943, pp. 174, 177–79.
31. Manadian, *Trade and Cities*, p. 196; Ashtor, *Levant Trade*, pp. 61–62.
32. Texeira, *Travels*, pp. 261–62.
33. Marco Polo, *Ser Marco Polo*, I, pp. 83–84, 107.
34. Major, 'Narrative of the Journey of Abd-er-Rezzak', pp. 5–7.
35. Edward Alpers, 'Gujarat and the Trade of East Africa, *c.* 1500–1800', *The International Journal of African Historical Studies*, IX(1), 1976, p. 24.
36. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, pp. 163–64. For *pāiza* see Yule and Cordier's note in their translation of *Ser Marco Polo*, I, pp. 351–54.
37. Baṭṭūṭa, *Riḥla*, pp. 327–28, tr. Gibb, II, pp. 478–79. Cf. Māhrū, *Inshā'-i Māhrū*, pp. 212–13.
38. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, p. 184.
39. Ibid., I, pp. 483–84; II, pp. 38, 60–62.
40. Sijzī, *Fawā'idul Fuwād*, pp. 192–93.
41. Ibn Baṭṭūṭa, *Riḥla*, pp. 390–91, tr. Gibb, II, p. 586.
42. Māhrū, *Inshā'-i Māhrū*, p. 213.
43. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, II, pp. 177–78.
44. Chau Ju Kua (Zhao Rugua)*, Chu-Fan-Chi* (*Zhufan Zhi*), pp. 89, 92. The date of this work, given as 1242 and 1258 by the translators, has been revised to 1225 by P. Pelliot (see Needham, *Science and Civilisation in China*, V(2), pp. 320, 417). Zhao Rugua also says (p. 94) that there was no trade between Chu-lien (Chola country) and China, but he does refer (p. 96) to embassies sent from the Chola court to China in 1015 and 1077.
45. Marco Polo, *Ser Marco Polo*, II, p. 370.
46. Waṣṣāf, *Tārīk<u>h</u>-i Waṣṣāf*, III, p. 301.
47. Elliot and Dowson, *History of India*, I, p. 69.

48. See, for example, Ibn Baṭṭūṭa, *Riḥla*, pp. 561, 563–66, tr. Gibb-Beckingham, IV, pp. 809, 811–16.
49. Ibn Baṭṭūṭa, *Riḥla*, p. 615, tr. Gibb-Beckingham, IV, p. 873.
50. Ma Huan, *Ying-yai Sheng-lan*.
51. Marco Polo, *Ser Marco Polo*, II, pp. 266–330, placed naturally in the reverse order, since Marco Polo was sailing from China to India.
52. Ibn Baṭṭūṭa, *Riḥla*, p.?; tr. Gibb-Beckingham, IV, pp. 874–87.
53. On this port see Marco Polo, *Ser Marco Polo*, II, pp. 231–36.
54. Ibn Baṭṭūṭa, *Riḥla*, p. 29, tr. Gibb, I, p. 19 describes Zaitūn as one of the great ports of the world.
55. Minhāj Sirāj, *Ṭabaqāt-i Nāṣirī*, Vol. 1, pp. 429–30.
56. Marco Polo, *Ser Marco Polo*, II, pp. 76, 78, 119.
57. Geneviev Bouchon and Denys Lombard, 'The Indian Ocean in the Fifteenth Century', in Gupta and Pearson, *India and the Indian Ocean*, p. 51.
58. Frederic C. Lane, 'Pepper Prices Before Da Gama', *Venetian Social and Economic History*, p. 593.
59. Pires, *Suma Oriental*, I, p. 21 ('as they are already costly at Ormuz I do not think much goes from there to Cairo for dispatch to Italy'). Also see Lane, 'Pepper Prices', p. 596.
60. Najaf Haider, 'The Network of Monetary Exchange in the Indian Ocean Trade: 1200–1700', in Ray and Alpers, *Narratives of the Sea*, p. 194.
61. Waṣṣāf, *Tārīk<u>h</u>-i Waṣṣāf*, III, pp. 301–02.
62. Chau Ju-Kua, *Chu Fan Chih*, p. 92; and Halil Inalcik, 'Bursa and the Commerce of Levant', *JESHO*, III, 1963, pp. 133, 135, 136, 141; Inalcik's paper is reprinted in his *Ottoman Empire*, essay XI.
63. Pires, *Suma Oriental*, I, p. 43.
64. Baṭṭūṭa, *Riḥla*, tr. Gibb, III, p. 741. Cf. Irfan Habib, 'Economic History of the Delhi Sultanate. An Essay in Interpretation', *The Indian Historical Review*, IV(2), January, 1978, pp. 293–94.
65. See Levi, *Indian Diaspora in Central Asia*, pp. 61–63.
66. Ibid., p. 61.
67. Barani, *Tārīk<u>h</u> i Fīrozshāhī*, p. 314; Habib, 'Economic History of the Delhi Sultanate', p. 294.
68. Daniell, *Gold Treasure of India*, p. 51.
69. Ibn Baṭṭūṭa, *Riḥla*, p.?; tr. Gibb, II, pp. 478–79; Baranī, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 314.
70. Major, 'Narrative of the Journey of Abd-er-Rezzak', p. 7; Pires, *Suma Orientales*, I, pp. 44; Burton Stein, 'Vijaynagara, *c.* 1350–1564', in Raychaudhuri and Habib, *Economic History*, I, pp. 117–18.
71. Bouchon and Lombard, 'The Indian Ocean in the Fifteenth Century', p. 52.
72. Baṭṭūṭa, *Riḥla*, p.?; tr. pp. 604–05, 649.
73. Mushtāqī, *Waqia-i Mushtaqi*, pp. 254–55 (the text has *sih ruk<u>h</u>i*).
74. Bābur, *Bāburnāma*, I, pp. 203.
75. Ibn Baṭṭūṭa, *Riḥla*, p. 425, tr. Gibb, III, p. 633 (Iltutmish's dispatch of a merchant to buy for him slaves at Samarqand, Bukhara and Tirmiz).
76. Ibn Baṭṭūṭa, *Riḥla*, pp. 364, 366, 394–95, tr. Gibb, III, pp. 547, 550, 594.
77. Pires, *Suma Oriental*, I, p. 43.
78. Marco Polo, *Ser Marco Polo*, II, 389–90 for export of silk and Baṭṭūṭa, *Riḥla*, pp. 627–28, tr. Gibb-Beckingham, IV, p. 889, for export of porcelain. The Chinese embassy to Muḥammad Tughluq's court brought 500 velvet garments as gifts (Baṭṭūṭa, *Riḥla*, p. 530, tr. Husain, p. 150).
79. Marco Polo, *Ser Marco Polo*, II, pp. 389–90.
80. Digby, *War-Horse and Elephant*, pp. 42–47.
81. See 'Afīf, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 486 for imports for elephants from 'islands of Rūdfīl(?)' into Gujarat for the royal court at Delhi.
82. Marco Polo, *Ser Marco Polo*, II, pp. 389–90.
83. Ibid., p. 250.
84. Ibid., pp. 234–35.
85. Ibn Baṭṭūṭa, *Riḥla*, p. 563, tr. Husain, p. 188.
86. Ibn Baṭṭūṭa, *Riḥla*, pp. 530–31, tr. Husain, p. 151.
87. Goitein, *Letters*, p. 20; *Mediterranean Society*, I, pp. 341–42.

88. Waṣṣāf, *Tārīk<u>h</u>-i Waṣṣāf* , III, p. 300.
89. Digby, 'The Currency System', *CEHI,* I, pp. 100–01; J.F. Richards, 'Outflows of Precious Metals from Early Islamic India', in Richards, *Precious Metals*, pp. 183–205.
90. Borbosa, *Book of Duarte Barbosa*, II, pp. 100–01. Gold was also brought to Aden from the western coast of India to pay for the Arabian horses (Pires, *Suma Oriental*, I, pp. 17, 21). Pires speaks of the export of silver coins (*tangas*) to India from Hurmuz (p. 20). The general flow of gold and silver to India, particularly Gujarat, from Cairo, Aden and Hurmuz is testified to by Pires (pp. 13, 43, 44).
91. Magalhaes-Godinho, *L' economie de l' empire*, p. 512.
92. Irfan Habib, 'Merchant Communities in Pre-Colonial India', in Tracy, *Rise of Merchant Empires*, pp. 379–96.
93. Pires, *Suma Oriental*, I, pp. 41–42.
94. Daftary, *Ismailis*, pp. 292–302.
95. A. P. Martinez, 'Regional Mint Outputs and the Dynamics of Bullion Flows through the Il-Xanate', *Turks, Hungarians and Kipchaks: A Festschrift in Honor of Tibor Halasi-Kun, Journal of Turkish Studies*, VIII, 1984, p. 173.
96. Ibn Baṭṭūṭa, *Riḥla*, p. , tr. Gibb, III, pp. 595–96.
97. Barani, *Tārīk<u>h</u>-i Fīrozshāhī*, p. 120.
98. Ibid., p. 311.
99. Pires, *Suma Oriental*, I, p. 42.
100. Ibn Baṭṭūṭa, *Riḥla*, p. 570, tr. Husain, p. 194.

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III

India in the Fifteenth Century

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CHAPTER 17

Economic Implications of Political Disintegration

Iqtidar Alam Khan

I

The disintegration of the Delhi Sultanate and the rise of regional states in the fifteenth century began in the closing years of Muḥammad Tughluq's reign (1324–51). The earliest signs of this process were the setting up of the Bahmani dynasty at Daulatabad (1347) and the rise of the Sultanate of Madurai,[1] accompanied by the rise of Vijayanagara and the reversion to independence of some other older principalities in south India.[2]

This process appears to have gained further momentum during Fīroz Tughluq's long reign (1351–88). Not only did Bengal and Sind become independent, despite Fīroz Tughluq's military expeditions against them,[3] but the high degree of centralization of the Sultanate achieved under 'Alāu'ddīn Khalji (1296–1316) and Muḥammad Tughluq began to loosen, and the nobles came to acquire practically untrammelled control over the incomes of their revenue assignments, which were now often allowed to be inherited by their descendants.[4] This situation was further compounded by Fīroz Tughluq's policy of employing slaves in his administration as well as in the army on an unprecedented scale. The slaves embroiled themselves in palace intrigues and created obstructions to the smooth running of administration.[5]

After Fīroz Tughluq's death (1388), Khwāja Jahān, the *wazir* of the empire, practically assumed independence at Jaunpur, eventually leading to the emergence of the Sharqī Kingdom, which controlled much of the mid-Gangetic basin down to 1478.[6] Following Timūr's invasion (1398), Malwa, Khandesh and Gujarat also became independent sultanates, founded by erstwhile Tughluq governors.[7] In 1413, the Tughluq dynasty was replaced at Delhi by the Saiyids, whose writ in the end extended only to the immediate vicinity of the imperial capital; the rest of north-western India passed under the control of Turkish and Afghan military commanders, who turned into local potentates, and of resurgent Rajput chieftains of Rajasthan, central India and Orissa.[8]

The regimes that came to be established in the core territory of the Delhi Sultanate (Bayana, Kalpi, Badaun, etc.) as well those of the larger seceding provinces (Jaunpur, Bengal, Malwa, Khandesh, Gujarat and Deccan) were varied in character. Some of them developed

a tendency towards establishing centralized military and bureaucratic structures patterned after that of the Delhi Sultanate in its prime. This was the case, for example, with the sultanate of Gujarat, and perhaps, to a lesser extent, with the Bahmani Kingdom. Roughly from the middle of the fifteenth century, both these kingdoms possessed gunpowder artillery of a primitive type, which seems to have enabled the ruler in each of them to exercise comparatively greater control over the nobles as well as hereditary chiefs.[9] There were others, like the Sharqī[10] and Malwa sultanates,[11]which depended, in considerable measure, for their stability and military clout on the support of the local chiefs within the territory they laid formal claims to.

The element of religious divide in inter-state conflicts of the fifteenth century was often a matter only on the surface. How complex the situation was is shown by the claim for Rana Kumbha of Mewar made in an inscription stating that he was a Hindu sultan (*Hindu suratrana*), and by his putting the name of Allah in Arabic characters on the top layers of his Victory Tower.[12] The Vijayanagara rulers also for long used the title 'sultan over Hindu rāys' (*Hindu raya suratrana*) and kept in their employ a large contingent of Muslim horsemen, who were provided all facilities to perform their religious rites.[13]

The impact of these developments on the economy of the subcontinent as a whole, as well as of particular regions, is still to be studied in a systematic manner. Some features of agricultural economy as well as the pattern of internal and overseas trade of the fifteenth century are, however, discernible, at a more general plane, from Irfan Habib and Simon Digby's contributions to *The Cambridge Economic History of India*, Volume I (1982). There are also a few studies of particular regions with a focus on the fifteenth century, such as M.N. Pearson's *Merchants and Rulers of Gujarat* and M.R. Tarafdar's *Husain Shahi Bengal*. In the ensuing part of this chapter, an attempt is made to examine these features and address certain questions that arise from them regarding the economic history of the fifteenth century.

II

There is some basis for imagining that the fifteenth century witnessed the extension of cultivation in different parts of India in a significant measure. Such extension was possibly quite marked in the north-west, where the Persian wheel appears to have first emerged in the late fourteenth century and then spread by early fifteenth century all over Punjab and Sind. Colonization of fresh lands in Punjab, north-western Rajasthan and the western parts of the Gangetic Doāb by the migrating Jatt communities during the same period was, perhaps, another indication of the same phenomenon.[14] Canals cut by Fīroz Tughluq from the Yamuna and Sutlej would have made a similar, though more limited, impact in the region to the north-west of Delhi.[15] The practice of the early Sultans of Gujarat of assigning unsettled territories to their nobles probably also contributed, at least in a limited way, to the extension of cultivation in that region during the fifteenth century.[16] An extant inscription dated 21 May 1452 from a village near Ahmadabad suggests that in the Gujarat kingdom, nobles were encouraged to have wells dug within their charges.[17] Again, the rule that the land grants would carry uncultivated land to the extent of half the total area granted, which possibly evolved under the Lodī sultans (1451–1526), points to a similar effort to aid the extension of cultivation in the Gangetic plain.[18] An anecdote narrated by Mushtāqī suggests that under Sikandar Lodī (1489–1517), income from a *pargana* could increase radically year after year, and this could

have been made possible only by growth in cultivation.[19] In the Bahmani Kingdom too, sometimes military commanders controlling particular territories were asked to bring fallow land under cultivation.[20] This in turn seems to agree with Fukazawa's conjecture that the expansion of *patilki* and *desai watan*s or *vartan*s in fifteenth-century Deccan was part of the process of an expansion of cultivation.[21]

The rise of a class of rural intermediaries, referred to in the Persian writings of the Mughal period as *zamīndār*s, was yet another important development pertaining to agrarian economy in a major part of the Indian subcontinent. These were hereditary chiefs, *rāy*s and *rāna*s controlling large tracts as well as village headmen identified as *khoṭ*s and *muqaddam*s, who were originally accommodated within the power structure of the Delhi Sultanate during the fourteenth century. There was also created a new layer of rural intermediaries identified by Ibn Baṭṭūṭa (1333–34) as *chaudhurī*s; each one of these *chaudhurī*s, according to him, exercised jurisdiction over a nominal group of '100 villages' which was, possibly, the same as the administrative and fiscal sub-division called *pargana* in the Delhi Sultanate during the fifteenth century.[22] In addition to their hereditary claims on the produce of the land, the chiefs were sometimes remunerated for services rendered through revenue-free (*in'ām*) grants.[23] On the whole, this arrangement, in one form or the other, continued to be a part of the fiscal administration in many parts of north India as well as the Deccan down to Mughal times.[24]

Following the collapse of the central authority in the Delhi Sultanate after Fīroz Tughluq's death (1388), the arrangement involving the hereditary chiefs evolved in the first half of the fourteenth century was no doubt seriously disturbed, and much instability probably prevailed for about half a century.[25] Ultimately, agrarian relationships seem to have returned to a pattern somewhat resembling the situation in the fourteenth century under Sikandar Lodī (1489–1517).[26]

In the first half of the fifteenth century, a large number of chiefs designated variously as *rāy, ẓābiṭ* and *muquddam* came to control large tracts previously administrated by the officers of the Delhi sultans. Many strongholds in the Ganga-Yamuna Doāb like Kol, Etawa, Jalesar, Bhogaon, Patyali, Kampil, Khor (Shamsabad), as well as territories attached to them, came to be controlled by the chiefs. A similar situation appears to have prevailed in parts of the Punjab, the Meo territory south-west of Delhi, as also in Katehr, Awadh and districts further east. One knows from the account of Yaḥyā Sirhindī that these chiefs controlling *vilāyat*s (regions) and *pargana*s in central Doāb were coerced year after year to pay land revenue (*māl*) and some kind of additional tribute termed *khidmatī*.[27] In the absence of any estimates, it is difficult to speculate about the magnitude of the latter payment. One may, however, imagine that this was perhaps meant to compensate for the service the chiefs were required to render in return for *in'ām* grants held by them.

Some of the newly risen chiefs of the fifteenth century began to claim for themselves a Rajput identity.[28]This is, for example, suggested by the clan traditions of Ujjainias of Jagdishpur, who gained ascendancy in the tract between the Ganga and Son during Lodī rule. These traditions show that Ujjaniyas' claim of a Rajput origin and superior rights developed in the course of their migration in search of patronage and more productive and fertile lands, where they would try to establish their sway after ousting the existing chiefs.[29]

In Bengal, the settlement of land revenue having been made with the chiefs controlling different tracts naturally provided them with considerable influence in the independent sultanate, established towards the middle of the fourteenth century.[30] The presence of a large

body of the *pāik*s, or Hindu foot-solders, recruited possibly through the agency of chiefs as royal bodyguards, was also a contributory factor in this.[31] The ascent of Rāja Ganesh to the throne in 1409 was an indication of the influence that some of the chiefs of Bengal had come to wield by now.[32] The exclusion of the *pāik*s from active duty by 'Alāu'ddīn Ḥusain Shāh (1493–1519) could have been aimed at curtailing the clout that the chiefs had come to wield in the Bengal Sultanate by now.[33]

Sometimes, the *zamīndārī* rights were created by the sultans or their nobles as a part of their settlement with the hereditary chiefs. This was, for example, the case when Maḥmūd Begarha forced the lesser chiefs of Gujarat to accept the condition of military service in return for *bāṇṭh,* that is, a fourth share of the revenues of their original territories, while *talpad* that is, three-fourths of the revenues, were taken over by the state.[34] The rise of *zamīndār* clans appears to have had particular significance for the Sharqī Kingdom of Jaunpur. As shown by D.N.A. Kolff, the Sharqī Kingdom rested in a large measure on the support of the *zamīndār* clans of Awadh,[35] many of whom possibly owed their emergence as local magnates to the help and encouragement extended by the Sharqī rulers. This may be illustrated by the Sharqīs' support to the Bachgoti Rajputs in their drive to establish themselves in Sultanpur and Rudauli *pargana*s of Awadh after expelling the Lodī officials from there.[36]

III

The disappearance or decline of the slave market was an important development of the fifteenth century that possibly reflected the changing organization and pattern of handicraft production. It is well-known that there existed a large slave market in the Delhi Sultanate, which originated mainly from the policy of successive Sultans of enslaving large numbers of ordinary men and women taken prisoner during military campaigns. As suggested by Irfan Habib, a large body of this enslaved labour power was engaged in expanding handicraft production, partly based on new skills introduced from West Asia during the thirteenth and fourteenth centuries.[37] That this situation started changing slowly roughly from the latter half of Muḥammad Tughluq's reign (1324–51) is suggested by the way Baranī reports his campaign in the unsettled tracts of 'Hindustan' (1334). It would appear that in this campaign, emphasis was laid on terrorizing the rural rebels and forcing them to part with the meagre surplus produce they could obtain rather than enslaving them. Thus there is no mention of prisoners being taken for enslavement,[38]which is in sharp contrast with Baranī's own account of campaigns conducted by Balban in the same region.[39] Similarly, Yaḥyā Sirhindī also does not report large-scale enslavement during successive military campaigns undertaken by the sultans' officers against defiant chiefs during the first half of the fifteenth century.[40]

One is tempted to imagine that, for reasons yet to be explained fully, already by the end of the fourteenth century large-scale enslavement was no longer a lucrative enterprise for the sultans. The systematization of land-revenue collection over a large tract under 'Alāu'ddīn Khaljī (1296–1316) could have created the awareness in the ruling establishment that continuing enslavement of disaffected peasants could cause much loss to the state in the long run.[41] Muḥammad Tughluq's attitude of terrorizing the defiant villagers, on the other hand, was primarily aimed at forcing them to continue to work on the land and pay revenue at enhanced rates; he evidently did not see much gain in enslaving the rebels captured during his campaigns.

It is no doubt true that one of Timūr's aims in despoiling Delhi and other towns in north-western India (1398) was to capture slaves. But from Yazdī's account of the sack of Delhi, it is obvious that Timūr was mainly interested in capturing skilled personnel.[42] That he had little use for ordinary men and women captured during the campaign in India is borne by the systematic massacre of about 100,000 of them outside Delhi on the flimsy supposition that unarmed captives could join the fighting on the side of the Delhi army.[43]

In any case, the institution of slavery in India appears to have completely changed by the beginning of the sixteenth century. It is borne out by Bābur's account of Indian handicrafts. He speaks of large numbers of artisans organized in hereditary castes, but omits any reference to any enslaved artisan labour. Similarly, the absence of any notice of slave markets in the account of European travellers in Mughal India is indicative of the fact that the extent of slavery had undergone drastic contraction since the fourteenth century. Slave labour was no longer employed in handicraft production on a large scale. This change, which appears to have occurred during the fifteenth century, is yet to be explained adequately. Irfan Habib offers a plausible hypothesis when he suggests that it resulted from enslaved artisans gradually earning freedom to constitute new communities identified with particular professions, or, alternatively, from an increased supply of free skilled labour that led to enslaved labour (lacking the necessary incentive to produce) to be dispensed with.[44]

IV

Another development of the fifteenth century, purportedly a period of political disintegration, was the apparent weakening of the money economy in the Lodī Empire. This is suggested by a shift in the collection of land revenue from cash to kind, by the prevailing low prices and wages, as well as by the debasement of the currency. J.F. Richards' explanation of this entire situation as being a consequence of the Lodī sultans' policy of weakening the position of their nobles by depriving them of hard cash is not very convincing.[45] That the decline of money economy in the Lodī Empire had something to do with the worldwide scarcity of silver is a more persuasive explanation.[46] But the question remains as to why the scarcity of silver should so directly affect the mode of revenue assessment and realization only under Ibrahim Lodī (1517–26). As indicated by the revenue list of *sarkār*s of Sikandar Lodī's reign (1479–1517), the debased Lodī currency continued to serve as the medium of revenue collection down to Ibrāhīm Lodī's accession (1517).[47] A more plausible explanation of Ibrāhīm Lodī's extraordinary order, that revenue be collected only in kind, could have been that, in view of the prevailing glut of agricultural produce, he was trying to protect the cultivators from financial loss. Such an order would have been in conformity with the spirit of taccavi (*taqāvī*), a loan advanced to peasants for sustaining cultivation; even a harsh ruler like Muḥammad Tughluq (1325–51) is reported to have advanced *sondhār* or *taqāvī* during and after the famine of 1334–40. [48]

The pattern of India's overseas trade during the fifteenth century, when viewed from the perspective of Gujarat and Bengal, does not indicate that it was necessarily disturbed by the fragmentation of the Delhi Sultanate. As brought out by the Broach hoard, trade through Gujarat ports with West Asia as well as South-east Asia was an important source of specie coming to India, despite a worldwide scarcity of precious metals, particularly silver.[49] With silver earned through the overseas trade, the sultans of Gujarat were able to maintain a debased

but stable silver currency throughout the fifteenth century.[50] The stability of the Gujarat monetary system seems to have aroused the envy of some of the landlocked states. It is reflected in the oft-quoted remark attributed to Sultan Sikandar Lodī (1479–1517): 'While the kings of Delhi had their income from wheat and barley, the rulers of Gujarat prospered on coral and pearls imported through the eighty-four ports controlled by them.'[51]

A significant development of the fifteenth century with respect to the Asian maritime trade was the withdrawal of the Chinese ocean-going 'junks' from the seas west of Malacca. The vacuum thus created was apparently filled by ships owned by Gujarati merchants. They now came to play a crucial role in linking the ports in the Gulf of Cambay with the Persian Gulf and the Red Sea. From the Gujarat ports the trade in goods coming from the west as well as in those originating locally was carried to Malacca mostly in Gujarati ships.[52] This, on the face of it, would point to a considerable expansion of Gujarat's overseas trade during the fifteenth century. The references to Gujarat's overseas trade in Portuguese accounts also show that towards the end of the fifteenth century, it was still extensive and fairly profitable. Its prosperity was to be greatly affected, however, by the Portuguese intrusion in the early part of the sixteenth century.

M.N. Pearson holds that the sultans of Gujarat were not interested in promoting overseas trade, since there was little interaction between the rulers and the merchant communities. This indifference of the rulers towards merchants, it is implicitly suggested, resulted from the fact that overseas trade was not directly important in the revenues of Gujarat, since the custom duties provided just 6 per cent of the total revenues.[53] From the perspective of the vigorous expansion of Gujarati overseas trade during the fifteenth century prior to the Portuguese intrusion, this proposition needs to be examined carefully. One immediately asks whether the figure, 6 per cent of the total revenues for custom duties worked out by Pearson, faithfully represents all the different kinds of gains and incomes accruing to the sultans and their nobles from the various channels of trade. If the sultans and their nobles were really so indifferent towards the merchants, how could one explain literary evidence suggesting that Sultan Maḥmūd Begarha had a very protective attitude towards traders in general? He is reported to have undertaken an expedition in 1472 against the pirates of Dwarka to punish them for plundering a merchant. He went out of his way in 1487 to compensate merchants plundered by the Raja of Sirohi, and again took punitive measures in 1490 against Bahādur Gīlānī, a Bahmani noble, for his harassment of the Gujarati merchant ships sailing along the coast.[54] Then there were Bahādur Shāh's energetic measures against the Portuguese, noticed by Pearson himself. It is therefore difficult to agree with his suggestion that Bahādur Shāh, who died at the hands of the Portuguese in 1537, did not attach importance to the task of protecting the mercantile interests of Gujarat.[55]

V

The impact of the disintegration of the Delhi Sultanate on the economy of Bengal is again a theme that has not yet been systematically addressed. The contributions of Simon Digby in *The Cambridge Economic History of India* do carry some significant insights on this subject, but these need to be further pursued. It is, for example, important to explain what

the factors promoting the ship-building industry or the introduction of sericulture in Bengal during the fifteenth century were. The expansion of cotton textile production and emergence of several other crafts indicated by Ma Huan's list of items exported from Bengal to China need to be studied. This apparent vibrancy of Bengal economy at the beginning of the fifteenth century may possibly be connected with the stoppage of the earlier outflow of wealth to Delhi in the form of regular tribute paid by the provincial authorities.

Ma Huan's (1433) reference to the flourishing ship-building industry tends to suggest that the Bengal sea-going trade was by no means negligible, even before the great change that came in the pattern of oceanic trade following the withdrawal of Chinese shipping from Indian waters in the mid-fifteenth century. The testimony of early European travellers such as Ludovico di Varthema (1503–08), Duarte Barbosa (1518) and Tom Pires attest to the presence of a large number of Bengali merchants at Malacca, some of whom, being very rich, even owned ships. Who were these merchants and what was their role in the Bengal Sultanate are questions that remain to be answered satisfactorily. As Aniruddha Ray points out, the existence of this class of merchants is not attested to in pre-Mughal Bengali literary texts.[56]

Bengal's source of silver supply during the fifteenth century is yet another aspect that needs to be investigated. Simon Digby's inference that silver might have come from China is quite plausible.[57] In this context, one should also refer to the views of M.R. Tarafdar who, basing himself on a statement of Minhaj Sirāj, assumes that metallic currency was totally absent in Bengal down to the middle of the thirteenth century and that it was, perhaps, under the sultans that coins came to circulate in Bengal as a medium of exchange.[58] But this throws up the question as to what the nature and quantum of Bengal's overseas trade was. Were Bengal's exports, particularly to China, large enough to explain the inflow of Chinese silver in substantial quantities? One can have a firm opinion in this respect only after these questions are investigated.

VI

From the broad view of the fifteenth century that the varied glimpses of the economies of the various regions allow us to form, it may be concluded that the political disintegration witnessed in the period had significant socio-economic implications, largely to the extent of making the hereditary rural potentates more influential within the existing political systems. The rise of the *zamīndār* class in a major part of the subcontinent was one important manifestation of this development. As part, or consequence, of this process, there seems to have developed a greater participation of the Hindu hereditary chiefs in the affairs of the sultanates still dominated by predominantly Muslim nobles of diverse ethnic and cultural origins.

So far as the trade and crafts are concerned, there is no firm indication that the disintegration of the Delhi Sultanate affected them in any significant way. There did take place a noticeable decline in the slave element within the workforce during the fifteenth century, but this change does not seem to have been linked to the process of political disintegration. Both in Bengal and in Gujarat, trade and commerce as well as handicrafts appear to have experienced buoyancy during the fifteenth century, when these regions were controlled by regional Sultanates.

NOTES AND REFERENCES

1. Jackson, *Delhi Sultanate*, pp. 192*n*, pp. 276–97.
2. For the rise of the Vijayanagara Empire (1336–79), see Sewell, *Forgotten Empire*, pp. 24–46. Cf. Baranī, *Tārīkh-i Fīrozshāhī*, p. 521. There is a reference in Baranī here to the chiefs, brought by Muḥammad bin Tughluq to Delhi from the Deccan, escaping from there to join the rebels at Devagiri (Daulatabad). Many of these chiefs subsequently set themselves up as independent *nāyak*s in Telengana and other parts of the Deccan.
3. 'Afīf, *Tārīkh-i Fīroz Shāhī,* pp. 137–13. See also Yaḥyā, *Tārīkh-i Mubārakshāhī*, pp. 128, 131, where it is brought out clearly that the Sultan was obliged to recognize the independence of Sikandar Shāh, the ruler of Bengal (1359–60) and the Jām of Thatta (1360–61), as his military campaigns failed to pacify these territories.
4. See Irfan Habib in Raychaudhuri and Habib, *Economic History*, I, pp. 73–74.
5. Towards the end of Fīroz Tughluq's reign, the total strength of his personal slaves present at Delhi and its vicinity came to one lakh. These slaves played a conspicuous role in the factional tussle at the court during this time. Following Fīroz Shāh's death in 1388, they initially supported Tughluq Shāh, a grandson of the deceased Sultan, but themselves eventually suffered a general massacre on Sultan Muḥammad's orders in September 1390 (Yaḥyā, *Tārīkh-i Mubārakshāhī*, pp. 139–41, 150).
6. Cf. Yaḥyā, *Tārīkh-i Mubārakshāhī*, p. 169.
7. Firishta, *Tārīkh-i Firishta,* II, pp. 178–80, 234–77.
8. About the last ruler of the Saiyid dynasty Muḥammad Shāh, the popular sentiment, according to 'Abdullāh, was represented by the general comment: *bādshāhī-i 'ālam, az Dehlī tā Pālam,* 'The empire of the world (extends) from Delhi to Palam'. See 'Abdullāh *Tārīkh i Dāūdī*, p. 7.
9. Cf. Khan, *Gunpowder and Firearms*, pp. 46–52 and 'Gunpowder and Empire: the Indian Case', *Social Scientist*, 33(3–4), March–April 2005, pp. 54–55.
10. For the support of local chiefs to the Sharqī Kingdom as against the Lodīs, see Niẓamu'ddīn Aḥmad, *Ṭabaqāt-i Akbarī*,I, pp. 317–18, and 'Abdullāh, *Tārīkh-i Dāūdī*, p. 46.
11. Cf. Firishta*, Tārīkh-i Firishta*, I, p. 348. The presence of many Rajput soldiers in the Malwa army defending Kherla against the Bahmanis in 1467 showed the wide support the Malwa Kingdom enjoyed among Hindu *zamīndār*s. The same impression is created by the supportive attitude of the Rajput chiefs controlling the tract south of Yamuna, whom D.H.A. Kolff gives credit for recruiting Purbia Rajputs in the military establishment of the Malwa Kingdom. (See Kolff, *Naukar, Rajput and Sepoys*, pp. 87–89, 160–63; see also Sikandar bin Manjhū, *Mirāt-i Sikandarī*, Bombay, AH 1308, p. 146).
12. H.B. Garrick in Cunningham, *Archaeological Survey Report*, XXII, pp. 116–17.
13. As early as 1430, there were 10,000 Muslim horsemen in Vijayanagara cavalry (Sherwani, *Bahmanis of Deccan*, p. 196). For a detailed comment see Phillip B. Waggoner, 'Sultan Among Hindu Kings, Dress, Titles, the Islamization of Hindu Culture at Vijayanagara', *Journal of Asian Studies*, 55, 1996, pp. 851–80.
14. Irfan Habib, 'Jatts of Punjab and Sind' in Singh and Barier, *Punjab*, pp. 92–103, and 'Technological Changes and Society,13th and 14th centuries', Presidential Address, Section II, *Proceedings of Indian History Congress*, Varanasi Session, 1969, pp. 153–94. For the concentration of the Jatt population in *pargana* Merta where, according to Nainsi (*c.* 1665), a very large number of Persian wheels existed in his time, see B.L. Bhadani, 'Economic Conditions of *pargana* Merta in the 17th century', *Proceedings of Indian History Congress*, 36th Session, Aligarh, pp. 216–17.
15. Cf. Yaḥyā, *Tārīkh-i Mubārakshāhī*, pp. 125–26.
16. See Misra, *Rise of Muslim Power*, p. 209.
17. Bendrey, *Muslim Inscriptions*, p. 110. An inscription instituting a land grant in the village Rakhyal mentions the recommendation made to that effect by Malik Sha'bān, *Malik u'sh-Sharq*, who is reported to have caused wells to be dug.
18. See *parwāna* of Maḥmūd Khān Lodī to one of the descendants of Shaikh Farīd, reproduced in Maḥmūd 'Abbāsī's *Tārīkh-i Amroha*, I, p. 34. For a detailed comment see Siddiqui, *History of Sher Shah*, pp. 131–33.

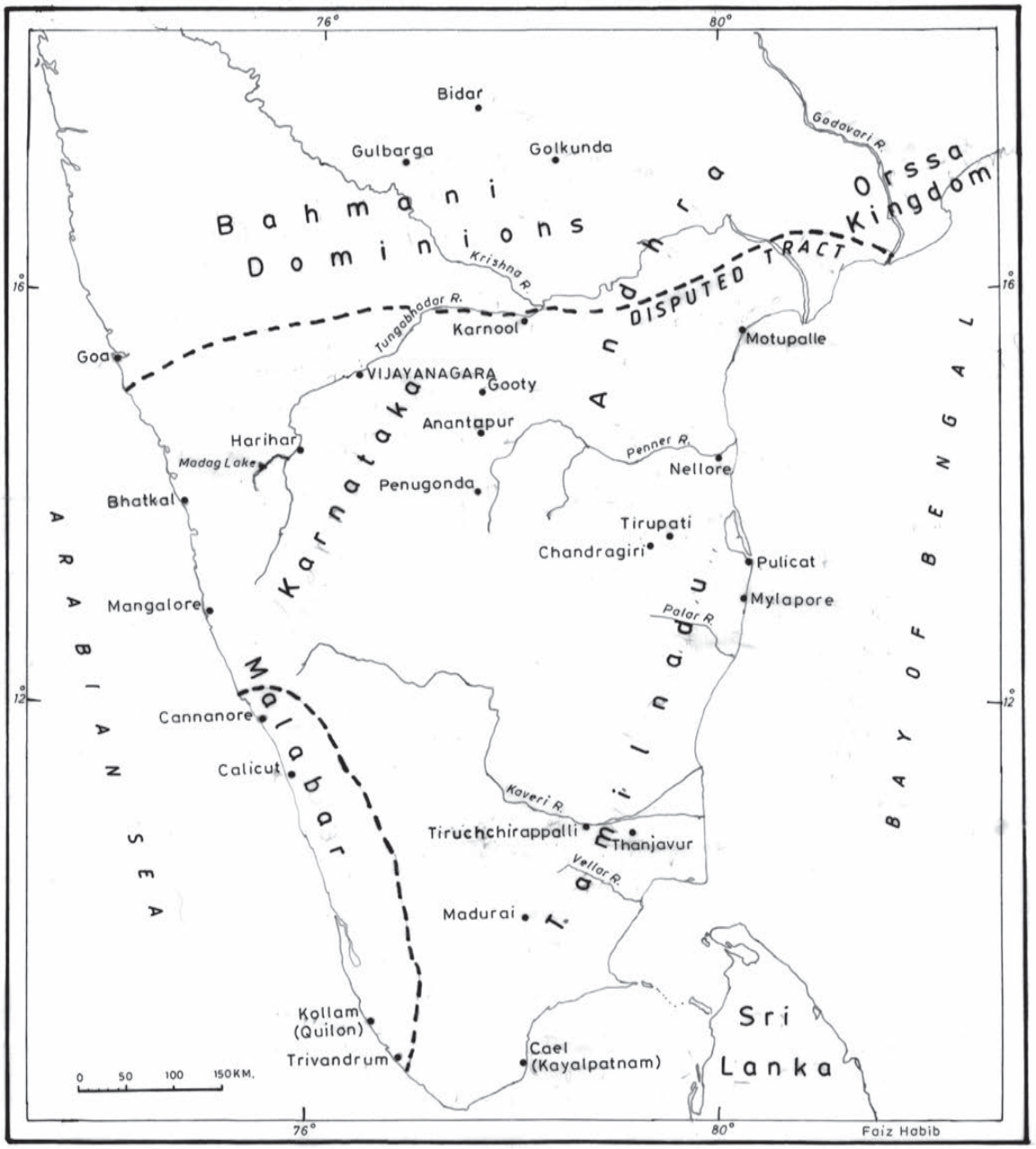
19. Rizqullāh Mushtāqī, *Wāqi'āt-i Mushtāqī*, MS. British Library, Or.1929 (written before 1580), f.26 b.
20. See Z.A. Desai in Sherwani, *History of Medieval Deccan*, II, p. 371. The text of a *qaulnāma* dated 1495 (*Epigraphia Indica: Arabic-Persian Supplement*, 1955 and 1956, p. 78) is cited, where Khān-i A'ẓam Ghālib Khān, in charge of *thāna* Muhammadabad, is asked to arrange the cultivation of fallow land.
21. Fukazawa, *Medieval Deccan*, pp. 148–49. For *vartana*, meaning hereditary lands and allowances allowed to *zamīndārs* and local officials, see Habib, *Agrarian System*, pp. 157, 185*n*.
22. See Irfan Habib in Raychaudhuri and Habib, *Economic History*, I, pp. 52–58. Cf. Mushtāqī, *Wāqi'at-i Mushtāqī*, f.329a. Also see Siddiqui in *Studies in Islam,* October 1965, p. 231 *n*. 3. Mushtāqī states that in every *pargana*, 'there are fifty or hundred villages'.
23. Irfan Habib, 'Aspects of Agrarian Relations and Economy in a Region of UP during the 16th Century', *Indian Economic and Social History Review*, IV(3), September 1967, pp. 210, 220–21. A sale deed executed in March 1530 records the simultaneous sale of superior rights (*milk-o-ḥaqq-i khotī*) and the right to collect *kharāj in'ām* in a village of *pargana* Shamsābād, *sarkār* Kanauj. This should illustrate the nature of rights and perquisites that the village chiefs had come to enjoy under the Lodīs.
24. In the Deccan, where, according to Hiroshi Fukazawa, the earliest references to *desāī,* who like a *chaudhari* of the fourteenth-century Delhi Sultanate, controlled a *pargana,* date back to 1395. In addition to their hereditary remunerations (*vartan*), they evidently also came to hold *in'ām* grants (*Medieval Deccan*, pp. 12, 20).
25. Cf. Irfan Habib in Raychaudhuri and Habib, *Economic History*, I, p. 59: '… this represented a partial—but only partial revival of the older rural aristocracy'.
26. After an initial tussle, many of the chiefs in the Doāb, Katehr and Jaunpur tracts, who had fiercely resented the annexation of Sharqī territories, were reduced to submission by Sikandar Lodī. Cf. I.H. Siddiqui, *Some Aspects of Afghan Despotism*, p. 58. Siddiqui is inclined to suggest that these chiefs had entered the official hierarchy of the Lodī empire.
27. Yaḥyā, *Tārīkh-i Mubārakshāhī*,, pp. 171–73, 180, 184–85.
28. In a significant aside in his 'Distribution of Landed Property in Pre-British India' (*Enquiry,* n.s., II[3], 1965, pp. 54, 55), Irfan Habib invites attention to 'the social consolidation of this superior rural class (of the chiefs), through the absorption of its various elements, as clans or sub-castes, into the great Rajput caste'.
29. See Bodhraj, 'The Account of the Ujjainiyas of Bihar', tr. B.P. Ambhashthya, *Journal of Bihar Research Society*, XLVII(I–IV), 1961.
30. See Fīroz Tughluq's *farmān* (1354) addressed to the chiefs (*ṭāifa-i zamīndārān)* of Bengal (Lukhnauti), reproduced in *Inshā-i Māhrū* of 'Ainu'l Mulk 'Abdullāh bin Māhrū, on p. 17. It gives the impression that the land revenue demand (*maḥṣūl*) of different regions (*vilāyats*) of Bengal was settled with the chiefs controlling them. The same arrangement continued in Bengal down to Mughal times. Cf. Habib, *Agrarian System*, pp. 215–19.
31. Referring to the overthrow of the Ilyās Shāhī ruler Sultan Fatḥ Shāh (1490–1491), Firishta, *Tārīkh-i Firishta*, II, p. 248, states that a band of 5,000 *pāik*s guarded the person of the sultan round the clock.
32. See Firishta, *Tārīkh-i Firishta*, II, p. 298, and Jadunath Sarkar in Sarkar, *History of Bengal*, II, pp. 120–21. Also cf. H.R. Tarafdar, *Husain Shahi Bengal*, pp. 3–4, and Shaikh 'Abdul Latif, *Muslim Mystic Movement in Benga*, pp. 65, 66–67: A letter of the orthodox ṣūfī Muẓaffar Shams Balkhi to Ashraf Jahāngīr Samnānī (then residing at Jaunpur) is cited, where Sultan Ghiyāsu'ddīn A'ẓam Shāh (1389–1409) is criticized for appointing non-Muslims to key positions.
33. Firishta, *Tārīkh-i Firishta,* II, pp. 301–02. See Tarafdar, *Husain Shahi Bengal*, pp. 103–06. It is held that *pāik*s constituting the infantry of the Bengal Sultanate's army were particularly effective in the rainy reason when cavalry was not of much use.
34. 'Alī Aḥmad Khān, *Mir'āt-i Aḥmadī*, 1961, I, pp. 173–74. For a detailed discussion on *bānṭh*, see Habib, *Agrarian System,* pp. 176, 177, 184–6l.
35. Kolff, *Naukar, Rajput and Sepoys*, pp. 87–89, 163.

36. See Simon Digby, 'Abd al-Quddus Gangohi (AD 1456–1537): The Personality and Attitude of a Medieval Indian Sufi', *Medieval India: A Miscellany*, Aligarh, 1973, III, p. 9, *n*. 41.
37. Cf. Irfan Habib in Raychaudhuri and Habib, *Economic History*, I, pp. 89–93. See also Shadab Bano, 'The Economic Aspects of Medieval Indian Slavery', unpublished paper presented at the Seminar on Economic History and Medieval India, Aligarh, 20–22 March 2004, pp. 1–3.
38. Baranī *Tārīkh-i Fīroz Shāhī*, p. 80: 'Sultan Muḥammad bin Tughluq during this time (1334) mobilized the army for the plunder and sack of Hindustan. Every one captured was killed. A majority escaped and slipped into the forests which were surrounded and every one found there was killed. In this manner during that year the tract from Qanauj to Dalmau was plundered and sacked.'
39. Baranī *Tārīkh-i Fīroz Shāhī*, p. 57. When Balban, during his expedition into the Doāb, captured a large number of men and women, slaves became cheap in Delhi.
40. Yaḥyā, *Tārīkh-i Mubārak Shāhī*, pp. 26, 154, 156–58, 160, 169, 170, 171–72, 184–85, 141.
41. This awareness evidently found expression in a discussion among some of the theologians of the Sharqī Kingdom (fifteenth century) regarding the validity of 'enslavement by capture of unbelievers.' Cf. 'Abdu'l Qādir Badāūnī, *Najātu'r Rashīd*, p. 240.
42. Yazdī, *Ẓafarnāma,* II, p. 124, As Timūr planned to build a central mosque at Samarqand, he directed that from among those taken prisoner at Delhi 'all the stone-cutters be taken in the royal establishment'.
43. Ibid.*,* p. 92.
44. Bābur, *Bāburnāma*, p. 520. Cf. Irfan Habib in Raychaudhuri and Habib, *Economic History*, I, p. 92.
45. John F. Richards, 'The Economic History of the Lodi Period: 1451–1526', *JESHO*, III, 1965, pp. 47–67.
46. Cf. Irfan Habib, in Raychaudhuri and Habib, *Economic History*, I, p. 67.
47. Bābur, *Bāburnāma*, II, pp. 520–21.
48. Cf. Irfan Habib, Raychaudhuri and Habib, *Economic History*, I, p. 65, *n*. 3.
49. Simon Digby in Raychaudhuri and Habib, *Economic History*, I, p. 99.
50. Irfan Habib in Raychaudhuri and Habib, *Economic History*, I, p. 99.
51. Sikandar bin Manjhū, *Mir'āt-i Sikandarī*, p. 309–10.
52. Pearson, *Merchants and Rulers*, p. 14.
53. Ibid., p. 24
54. Manjhū, *Mirāt-i Sikandarī*, pp. 75, 101, 114–15, and Nizamu'ddīn Aḥmad, *Ṭabaqāt-i Akbarī*, II, pp. 163–64.
55. Cf. Pearson, *Merchants and Rulers*, pp. 74–75.
56. Cf. Aniruddha Ray in Hasan and Islam, *Essays*, pp. 223–24.
57. Raychaudhuri and Habib, *Economic History*, I, p. 98.
58. Tarafdar, *Husain Shahi Bengal*, pp. 28, 31.

IV

The Economy of the Vijayanagara Empire (1346–1542)

VIJAYANAGARA EMPIRE



CHAPTER 18

The Empire

Irfan Habib

It would have been ideal if we could have supplemented our account of the economic history of India as a whole during the period of the Delhi Sultanate (1206–1526) with accounts of the economies of individual regions, at least during the period after 1351, when the Sultanate lost all claims to be an all-India polity. But, except perhaps for Malabar (Kerala), there is no region other than the Vijayanagara Empire for which sufficient evidence exists for us to reconstruct a passable picture of its economy. If our knowledge of the political history of the Vijayanagara Empire sometimes shows great gaps, the multitude of village inscriptions found in all parts of the Empire, including all three of its major linguistic zones, Telugu, Kannada and Tamil, provide us with a wealth of information of a kind we lack for all other areas. Ever since Colin Mackenzie collected copies of inscriptions and village papers ('Mackenzie Manuscripts') in the early decades of the nineteenth century, there has been much dedicated work done by scholars in assembling and analysing the source material.

As far as political history is concerned, Venkataramanayya's careful narrative published in 1946 provides a standard reconstruction that Sewell's pioneer work of 1900 had failed to provide.[1] There have then been studies of aspects of social and economic history, notably by Venkataramanayya himself and T.V. Mahalingam.[2] N. Karashima and Y. Subbarayulu have introduced a method of close scrutiny of inscriptions and the use of the quantitative method, which helps them to obtain insightful results bearing on developments in the polity, society and economy of the time. Their studies have, however, remained largely confined to the area of Tamil Nadu.[3] Burton Stein's monograph on Vijayanagara contains some data and reflection on economic and social history, but the bias towards 'segmentary state' remains strongly entrenched.[4] In recent years, a valuable quarry for information has been created by the publication of the Vijayanagara-period inscriptions in Kannada language, in six volumes, by Ritti and Gopal.[5] One looks forward to a similar corpus of Telugu and Tamil inscriptions.

In the present survey of the economy of the Vijayanagara Empire, it is assumed that while Kampila, the initial core of the Empire, was in the hands of the founder Harihara by 1336, the history of the Empire dates from *c*.1346, by which year much of the Hoyasala kingdom and other areas had been annexed. The terminal point has been taken to be the end

of the reign of Achyutaraya, 1542. During the two centuries, 1346–1542, the Empire comprised the bulk of the territory south of the latitude of the junction of the Tungabhadra and Krishna rivers, down to Adam's Bridge, but excluding the larger part of Kerala. The northern frontier at times fluctuated considerably, but broadly speaking, the above description of its geographical extent would serve for the whole period. In terms of modern state frontiers, this meant that the Empire included southern Andhra and parts of coastal Andhra, all of Karnataka except its northernmost districts, and practically the whole of Tamil Nadu.

NOTES AND REFERENCES

1. Robert Sewell, *A Forgotten Empire*, is now available in an Indian reprint (used in this chapter). N. Venkataramanayya's political history of the empire is set out in his introduction to *Further Sources*, constituting Vol. I of the three-volume work.
2. In his *Studies in the History of the Third Dynasty of Vijayanagara*, N. Venkataramanayya devotes less than 100 pages to the political history of just the period 1530–43, while the bulk of his book is concerned with administration, taxation, trade and commerce, and social conditions in the Vijayanagara Empire during the sixteenth century. T.V. Mahalingam published his *Administration and Social Life Under Vijayanagar*, Madras, 1940, in one volume, and then published a revised and expanded version of the same work in two volumes, Madras, 1975.
3. See, for example, Karashima, *Towards a New Formation*.
4. Stein, *Vijayanagara.*
5. Ritti and Gopal, *Inscriptions*.

CHAPTER 19

Agriculture and Irrigation

Irfan Habib

There can hardly be any doubt that forests occupied a much larger space within the Vijayanagara Empire than in recent times, although the actual extent of forest under it cannot possibly be established. Nicoló Conti (in India, 1419–44) made a journey by land from Penugonda to Mylapore (near Madras) via Chandragiri and found 'red sandalwood' forests on the way.[1] The exceptional plenitude of game animals and birds sold for the pot in the city of Vijayanagara early in the sixteenth century also suggests that there was much forest around the city.[2] A maxim of the Vijayanagara emperor Kri<u>sh</u>ṇadēvarāya (reign: 1509–30) is to the effect that forests should be preserved on the frontiers, but be cut down in the middle of the kingdom.[3] The process of forest removal within the kingdom was essential for extending arable land, and for the increase in state revenues that resulted from it. A 'lease deed' (*kaulu-nirūpam*) of as early as 1340 from southern Andhra promises a very low rate of tax for 'several years', and fixes concessional rates thereafter if the lessee cut down forest in the denominated area and established cultivation.[4] An inscription of 1419 from Bellary district, Karnataka, records how a new village was established by cutting down a forest.[5] Indeed, such could be the only way cultivation could have been extended in most areas of south India, though, as with forest, so with cultivation, it is fruitless to speculate about its actual extent.

Of the crops cultivated, rice was the premier crop raised in most parts of the Vijayanagara Empire.[6] Barbosa gives it this position in 'Charamandel' (Choḷamanḍalam) or Tamil Nadu.[7] He gives us an account of rice cultivation on the Kanara coast (also under Vijayanagara), and in this he offers us the first known description of the Indian seed-drill, which, attached to the plough, goes on dropping seeds into the furrows.[8] He tells us that rice was harvested twice a year. A variety of coarse black rice was also grown here, forming an article of commerce because of the demand for it from the poor people of 'Malabar' (Kerala), whither it was taken by small coastal ships.[9] Paes makes it clear that wheat was little cultivated around the city of Vijayanagara, 'since no one eats it except the Moors (Muslims)'.[10]

One crop that Paes found among crops grown in the Vijayanagara Empire was *milho zaburro*, which Sewell rendered as 'Indian corn' or maize; but Moreland shows conclusively that the jowar millet is meant, and he suggests that *zaburro* is possibly a corruption of jowar.[11] In the latter case, 'grain' in Paes's account probably stands for the ragi millet. Other food crops grown included barley, peas, beans, *moong*, other pulses, and horse-gram.[12]

Where there was demand that could be met through cheap transport, then, as we have just seen, inferior black rice could also be grown for sale, and not just for the producer's subsistence. Crops like pepper and ginger were grown in coastal Kanara and Malabar for the world market, the long-distance trade in them made possible owing to their low carriage costs.[13] Of two crops which required much processing before entering trade, sugar-cane was grown in Kanara (under Vijayanagara), which, for export to the Persian Gulf, had to be transformed into white powder, wrapped in small packets.[14] Cotton, the other such crop, was grown in the drier uplands behind the Malabar ranges.[15]

Outside the Kanara and Malabar coasts, where heavy rainfall provided a sufficiency of water, agriculture in the remainder of southern India stood in need of artificial irrigation. Unlike northern India, access to underground water was available only in exceptionally favoured alluvial tracts, and so wells could not be the major source of irrigation. Undulating lands, on the other hand, made it ideal country for the construction of dams (*aṇe*) across rivers and narrow openings in the hills in order to create tanks and lead off canals therefrom.[16] It was well-understood in the Vijayanagara Empire that since larger revenues could be derived from improvement in cultivation, it was necessary for the sovereign to 'excavate tanks and canals'.[17]

It is certain that some very great works were constructed by the Vijayanagara emperors themselves. Nuniz attributes to the immediate successor of Harihara II, presumably Bukkarāya II (*c*. 1400), a dam over the Tungabhadra River, built to bring its waters, after a run of 'five leagues', to the environs of Vijayanagara. The canal irrigated 'a quantity of gardens and orchards and great groves of trees and vineyards . . . and many plantations of lemons and oranges and roses and many other [fruit] trees . . .'.[18] Sewell, observing traces of the work on the ground, notes that 'for several miles, the channel [of the canal] is cut out of solid rock at the base of the hills'.[19]

Another large-scale work to obtain water for irrigation around Vijayanagara was undertaken by Krishṇadēvarāya (1509–30). Paes was an eye witness to the actual undertaking, which involved the excavation of a hill by 15,000 or 20,000 men to create a tank 'at the mouth of two hills'. His account matches that of Nuniz, who tells us that the embankment at the outlet of the lake was sought to be built with rocks without the use of lime mortar; and both travellers tell us that it collapsed again and again, until human sacrifices were offered! Water was conveyed into the lake, and from it to the areas to be irrigated 'through pipes' and aqueducts. Both rice fields and gardens were thus irrigated.[20]

The incredibly large works at the Madag Lake, whose erection is ascribed to the Vijayanagara emperors, could only have been created out of imperial resources. The Kumudvati River here passes through two ranges of hills, which, rising to over 600 metres above sea level, come close together at about six kilometers south-west of the town of Masur (Medur) in Dharwar district. This passage was dammed up by an earthen embankment nearly 250 metres thick at the base and over 30 metres in elevation. Two other embankments closed up higher gaps in the hills; and a channel was cut into rock along the hills to carry the overflow. Large sluices were supported by monoliths weighing 20 tons each. The lake so created was 15–25 kilometres long, and the canal emerging out of the lake can still be traced on the old maps. The full duration of its active life is not known. Ultimately, one of the side embankments was overwhelmed by the immense pressure of the dammed-up waters, greatly reducing the size of the lake and thereby its capacity as a source of irrigation.[21]

Works on a smaller scale, which were naturally far more numerous, were often undertaken by local potentates or rich individuals in return for fiscal concessions.[22] Epigraphic testimony to such effort from Vijayanagara times is extensive, and we can only present here a selection of such material.

The town of Harihara stands near where the Tungabhadara is joined by its tributary Haridrā River in the present-day district of Devangere (Karnataka). According to a slab inscription of 1410 found there, King Devarāya I directed the *mahājana*s ('great men', not merchants) of that locality to build a dam on the Haridrā River and dig a canal 'with their own money'; in return, they were to receive two-thirds of the income from the irrigated lands which belonged to a temple. Expenses on maintenance and repairs were to be borne by the builders and the temple in the same proportion of 2:1.[23] By 1424, however, the dam had broken down. Under instructions of a minister of Devarāya II, so another slab inscription at the spot tells us, a military officer, Chāmarāja, was persuaded to bear the expenses of rebuilding the dam, a task that was carried out by the original engineer, Buḷḷarāja, an expert in constructing 'dams and canals'.[24]

Such arrangements also took place without state officials being directly concerned. When a set of *mahājana*s rebuilt a dam over Pālār River in Kolar district in 1416, the local temple on its own granted them three-fourths of the neighbouring village which it held tax-free.[25] In some other cases, the local potentates and headmen might offer shares in land-ownership to the person capable of extending a canal to their villages, a transaction recorded in an inscription of 1467 from Mandya district.[26]

The inevitable process of silting required that some persons bear responsibility for dealing with it. One way was to pile more earth on the embankment so as to raise it as the water level rose in the tank owing to accumulations of the silt.[27] An inscription of 1513 from the Bangalore district records that four carts had to be provided regularly for bringing earth to the tank Hiriyakere, and two for another, the grant of (part of?) a village having been made to ensure that the beneficiaries fulfil this obligation.[28] On the other hand, certain villagers, who were allowed in 1371 to cultivate the land near a tank in Hassan district on concessional terms against an obligation to maintain carts and draught buffaloes, were probably expected to use them to desilt the tank and carry the fertile silt to their fields.[29] An inscription of 1397 from middle Vellar basin in Tamil Nadu shows that forced labour from 'all the people belonging to the four *jati*s' was to be mobilized by the local headmen (*naṭṭavar*s) to remove silt from tanks; those who refused were to pay a fine.[30]

Evidence for such irrigation works within the Vijayanagara empire comes to us also from the local traditions recorded in the village *kaifiyat*s and texts of inscriptions collected by Colin Mackenzie's officials in the nineteenth century.[31] Much information on irrigation in the Vijayanagara empire has been compiled by T.V. Mahalingam and, for a more restricted period, by Venkata Ramanayya.[32] Yet, it is still not possible to say how much of the cultivated land in the various regions of the Vijayanagara empire depended wholly or mainly on tank and canal irrigation. One can only say that it must have been considerable, and that crops like rice or sugarcane would have been almost entirely dependent on it in most areas of the Deccan plateau.

There are some reflections that validly arise about the larger economic and social implications of peasants' dependence on such works. The fact that the larger works required much investment, whose only possible source could be the state with its concentration of

fiscal resources and command over corvée labour, casts some doubt on the theory of the segmentary state which the late Burton Stein applied to medieval south India.[33] But the private enterprise lying behind most of the medium and small works equally undermines attempts to locate in these hydraulic works the basis of an 'Asiatic Despotism', out to suppress any private property in land.[34] Indeed, the way those who built and controlled dams, tanks and canals demanded in return for such expenditure substantive shares in produce, revenue or rents from the irrigated lands makes it clear that such works necessarily created varied forms of private rights, co-existing with the state's own claims.

A usually unnoticed consequence of dependence on tank irrigation was the element of instability inherent in the system, since despite arrangements being prescribed for their repair and maintenance, dams could burst under abnormal pressure of water, their sluices get damaged or eroded,[35]and the tanks fill up with silt and become useless. An inscription of 1416 records how a dam over the Pālār River, the 'Araliya-aṉe' in Kolar district, had lain damaged for a long time before it was rebuilt by a set of *mahājana*s, who were thereby able to resettle a village near the dam.[36] Again, a dam on Haridra River in the Devangere district constructed in 1410 broke down after some years, 'affecting the livelihood of several people', and had to be rebuilt in 1424.[37] Another inscription, one of 1497 from a place in Anantapur district of Andhra Pradesh, records that a named village had remained deserted for quite some time due to the collapse of the dam of the tank, and only now was the dam rebuilt.[38] An inscription of 1519 similarly refers to the dam of a tank in a village of Mandya district (Karnataka) having broken and the tank having silted up; the dam was now rebuilt and the tank desilted.[39] In each case, one can imagine first an inward migration of peasants into the newly irrigated area, and then, as the works decayed, an outward emigration. The more tank-irrigation spread, the more vulnerable the peasants could, therefore, become to pressures for shifting from one locality to another.

NOTES AND REFERENCES

1. Conti in Major, *India in the Fifteenth Century*, p. 7.
2. Domingo Paes (1520–22) and Nuniz (1535–37) in Sewell, *Forgotten Empire*, pp. 248–49 and 356.
3. Extract from his *Āmuktamālyada* in Sastri and Venkataramanayya, *Further Sources*, III, p. 161.
4. Sastri and Venkataramanayya, *Further Sources*, III, pp. 25–26. The use of the term *kaulu* (Persian *qaul*), for promise of fiscal concessions, is an interesting early borrowing from the terminology of Sultanate administration.
5. Ritti and Gopal, *Inscriptions*, I, pp. 1161–66.
6. Barbosa, *Book of Duarte Barbosa*, I, p. 200; and Paes in Sewell, *Forgotten Empire*, p. 248.
7. Barbosa, *Book of Duarte Barbosa*, II, p. 125.
8. Ibid., I, p. 192.
9. Ibid., I, p. 184–86.
10. Paes in Sewell, *Forgotten Empire*, p. 248.
11. Sewell, *Forgotten Empire*, pp. 230, 248; Moreland, *India at the Death of Akbar*, pp. 305–06. Maize cultivation is not evidenced in India until the seventeenth century, it being a crop cultivated in pre-Columbian America.
12. Barbosa, *Book of Duarte Barbosa*, I, pp. 200; Paes in Sewell, *Forgotten Empire*, pp. 230, 248.
13. Nicoló Conti (1419–44); Nikitin (1468–74) in Major, pp. 20–21; Stefano (1495–96) in Major, *India in the Fifteenth Century*, pp. 4–5, 6, 17–18, 20–21; Barbosa, *Book of Duarte Barbosa*, II, pp. 227–29.

14. Ibid., I, p. 188.
15. Nuniz in Sewell, *Forgotten Empire*, p. 369.
16. Buchanan, *Journey*, contains accounts of numerous such works, then extant or in ruins in Tamil Nadu and Karnataka; see especially, I, pp. 2–4, 279; II, pp. 82–83, 87–90, 192–93; and III, pp. 380–81, 453–54. Also see *Dharwar District Gazetteer* in the *Gazetteers of the Bombay Presidency* series, ed. James A. Campbell et al., Bombay, 1884, pp. 257–64.
17. 'Maxim of Krishnadevarāya' (1509–30), from his *Āmuktamālyada*, extract translated in Sastri and Venkataramanayya, *Further Sources*, III, p. 158.
18. Nuniz in Sewell, *Forgotten Empire*, p. 289.
19. Sewell, *Forgotten Empire*, p. 50. He adds that here we have 'one of the most remarkable irrigation works to be seen in India'.
20. Paes and Nuniz in Sewell, *Forgotten Empire*, pp. 237, 345–47; and Sewell's own comments on pp. 155–56.
21. See the account in the *Dharwar District Gazetteer*, pp. 260–62; also the Survey of India's Quarter-Inch Sheet 48N, 1951 edn, where the river Kumudvati is shown as terminating in the sandy bed of the erstwhile lake, and then, flowing out through the gap. Masur is at approximately 14°20'N., 75°24'E. Apparently no inscriptions have been discovered.
22. On this division between large works constructed by the state and smaller ones by private persons who thereupon received shares in 'rents' of irrigated lands from the state, see Buchanan, *Journey*, I, p. 279, giving an account of tank irrigation in Kolar (Mysore). In Baramahal (districts including Salem in Tamil Nadu), the custom was that the builder of the irrigation works obtained a fourth part of the watered land tax-free, but with an obligation to keep the works in good repair (ibid., III, pp. 453–54). See also Burton Stein in Raychaudhuri and Habib, *Economic History*, I, pp. 114–15.
23. Ritti and Gopal, *Inscriptions*, I(5), pp. 2009–20.
24. Ibid., I(4), pp. 1260–65. Buḷḷarāja is mentioned as having carried out the construction of the dam in the earlier inscription, under the name 'Buḷḷappa'.
25. Ibid., I(3), pp. 1114–17.
26. Ibid., I(5), pp. 1851–58 (slab-inscription at Sitapura).
27. Cf. Buchanan, *Journey*, III, pp. 380–81.
28. Ritti and Gopal, *Inscriptions*, II, pp. 117–18.
29. Ibid., I(1), pp. 209–11.
30. Karashima, *Towards a New Formation*, p. 51, for a summary of the inscription (no. 23).
31. For example, 'The Annals of Anantapuram' for the embankment across river Pandu to form a lake near Devarakonda in 1364 (Aiyangar, *Sources*, pp. 45–46); and the *kaifiyat* of Taḷṭā prodduṭr (Kadapha dist.) for a canal dug from the Pinakini in the reign of Harihara I (1336–56) (Sastri and Venkataramanayya, *Further Sources*, III, p. 24).
32. Mahalingam, *Administration and Social Life*, pp. 82–91; Venkata Ramanayya, *Third Dynasty*, pp. 186–93.
33. Stein, *Peasant State*.
34. See Wittfogel, *Oriental Dispotism*.
35. Buchanan (*Journey*, I, pp. 3–4), in the account of his journey from Madras to Arcot (1800), explains that sluices ('codies', *koḍi*) were made of sloping stones, their top opening placed lower than the full height of the dam so as to lead water along without eroding the earthen walls of the dam. An inscription of 1400 from the Bangalore district records how the son of a village headman (*gavuḍa*), by falling headlong over the sluice in construction, damaged it. The mason was given small pieces of wet and dry land and a house(-plot?) in compensation for his fresh labour. But it was laid down that if the sluice needed repairs subsequently, the mason was to secure his recompense from the heedless son of the headman (Ritti and Srinivas, *Inscriptions*, I[2], pp. 707–09).
36. Ibid., I(3), pp. 1114–17.
37. Ibid., I(5), pp. 2009–20, and I(4), pp. 1260–65.
38. Ibid., II, pp. 40–41.
39. Ibid., II, pp. 218–19.

CHAPTER 20

Structure of the Agrarian Economy

Irfan Habib

In considering the structure of the rural economy, one needs primarily to study the social framework and property relationships. Owing partly to the differences of language and terminology and partly to differences in historical backgrounds, it has been found convenient here to treat separately the conditions in the northern part of the Vijayanagara Empire, comprising the bulk of Karnataka and the southern parts of Andhra, and those in the empire's southern part, comprising a major portion of Tamil Nadu.

KARNATAKA AND SOUTHERN ANDHRA

We may begin by reminding ourselves that the village might not necessarily have been an egalitarian or a democratic 'community'. The south Indian village indeed seems to have had a customary structure that was already quite well-stratified. The Kannada formula *gauḍa-praje*, 'the headman and the subordinate peasantry', often found in the inscriptions of the period, sums up the recognized differentiated composition of village society.[1] In southern Andhra, an inscription of 1340 stipulates that a person who has promised to reclaim land from forest and to establish a village would become its *reḍḍi* or headman, and a Brahmana (named) would be the village *karaṇam* or accounts keeper. The *karaṇam* as well as the *āyagār*s (village servants) of the respective castes would hold certain lands tax free (*mānya*) in recompense for their services. The *reḍḍi* was to pay the land tax at concessional rates on lands for the tilling of which he was, on his own, to secure the requisite number of peasants and, apparently, make with them such arrangements as would bring him profit out of the difference between what they paid him and the amount of revenue he paid to the government at concessional rates.[2] When a village was to be re-established in 1404 in the Shimogga district (Karnataka) as a tax-free grant for a Brahmana pontiff, it was thought necessary to settle in the village a goldsmith, a carpenter and a blacksmith on small *mānya* lands.[3] In Goa in 1526 in an official Portuguese document, it was recognized that vacant lands were to be held 'rent-free' by 'the village servants, i.e., the temple Brahman, the gate-keeper, the bailiff, the washerman, cobbler, carpenter, blacksmith, temple-sweeper, dancing girls and the jester'.[4] Custom demanded that

the right to each position, with its incumbents' recompense in terms of land allotment and other perquisites, once established, should always be honoured, even if the claimant had, for good reason, abandoned the village. We see this in a decision taken on a dispute over the office of the *karaṇam* of a village given in favour of an incumbent who had deserted the post some years earlier, but had now returned.[5] The hereditary principle for the offices of such village servants is also strongly upheld in the Goa settlement of 1526.[6]

This village structure was not only a framework for providing services of various sorts to the inhabitants of a village, but, by its close connection with the caste system, had a hierarchical order built into it. It mattered a lot as to what caste the bulk of the inhabitants belonged. A village which was a 'Shūdra' settlement could be converted, without much ado, into an *agrahāra* (tax-free) village for a temple and priests.[7] Obviously, the Shūdras' own wishes or rights did not count. Another inscription of 1372 from the Mysore district shows how decisions for the village were made only by the village oligarchy: in an *agrahāra* village, the *mahājana*s ('big men', possibly leading Brahmana landowners) resolved to provide an annual grant of 30 pagodas (*gadyāṇa*s) towards the maintenance of the local temple dancing girls. This amount was to be raised by all Shūdra peasants paying one pagoda (*varaha*) per yoked plough, while the others paid half a *varaha* for a particular area of land under each crop.[8] Clearly, the Shūdras were the lowly cultivators whose resources could be judged by the yokes of ploughs they worked, while the others were land-holders, who had their lands cultivated by others and so ploughs could not be used to judge their worth.[7] Such landholders, especially when they were Brahmanas, were usually designated *mahājana*s.[9]

Clear evidence of an oligarchical system of control within the village comes from an inscription of 1457 from the Udupi district. Here, the assurance that a beneficiary of a royal grant could duly receive the tax due from the village of Kanyāna was given by 'the dignitaries of the place, viz. sons-in-law of Koṭe Tammiseṭṭi [presumably a merchant], twelve *jananis* ("landed men"), including his four brothers, two outside *heggaḍe*s (headmen), and fifty-two dignitaries representing the people (*jagat*)'. Of the 840 pagodas (*kāṭi-gadyāṇa*s) realizable in tax from the village, these 'dignitaries' would pay 760, keeping 80 for themselves. The inscription specifically says that they would collect the tax from the villagers. The *jananis* and *heggaḍe*s assumed the primary responsibility thereof, but the 52 individuals from the *jagat* or ordinary people did not escape: a failure to deliver the tax would entail a fine on them that was a half of what the *jananis* and *heggaḍe*s would have to pay.[10] An inscription of 1368 from the Mysore district tells us that 'all the *gauḍas*' (four named), 'all the *mahājana*s' of Kēshavapura, one *gauḍa* from Amachavāḍi, two from Haradanahaḷḷi, a named person from Maledēvanahaḷḷi, one *gauḍa* of Honnahaḷḷi and 'all the *gauḍa*s of Baṇḍigauḍanahaḷḷi' on their own (though in the presence of an official) assigned taxes such as *'kuḷa*, *baḷi*, *binugudeṛe*', etc., and also some lands, to be devoted to the provision of certain offerings and services at the local temple.[11] No assemblies, let alone any one of the ordinary peasants, were involved in the process of this substantial alienation of the resources of the villages.

Such social hierarchy co-existed with a system of private property which itself had its own complexities and limitations. Here we can draw on the details in an inscription set up in 1408 at a place within Mysore district. It speaks of the arrangements made to settle cultivators in a village earmarked for the payment of tax directly for the royal treasury. Groups of leading men (*samaya*s) to the number of 18 (perhaps a conventional number) were to bring in and settle peasants, who were to build their own houses, and pay the tax and other imposts

to the royal treasury. Such peasants could not leave; if they fled, the *samaya*s were to bring them back and be responsible for tax payment on their behalf. If they fled because of exactions by the headmen (*prabhu*s), the latter would have to make good the tax loss. If there was no fault on the part of the headmen (*gauḍa*s), the peasants (who remained?) had to make good the loss of tax. Among the peasants, sons were to inherit the father's holdings, and the brother that of a brother (if one died sonless?). Heirs were to pay any tax arrears that were outstanding.[12] The inscription implies the recognition of a peasant's right to cultivate the land, which would be inherited, but at the same time denies him the right of free movement. A state of semi-serfdom seems to be assumed.

Other inscriptions tell us of lands purchased and of full-fledged land-ownership by superior non-peasant elements. An inscription of 1368 from Shivamogga district states that a minister of the king purchased a village along with its two hamlets, paying 200 pagodas *(varaha*s) in price, while the annual tax due from it was 40. He transferred his ownership rights to several Brahmanas, the village being thereupon made an *agrahāra* or tax-free one by the authorities. Here, the notable fact lies in the purchase price, which was five times the annual revenue.[13] An inscription of 1403 speaks of six villages with an annual revenue of 150 pagodas (*gaḍyaṇa*s) being purchased for 500 pagodas, thus yielding a tax-price ratio of 3:10. An inscription of Dēvarāya II's time refers to the sale of three villages, yielding an annual tax of 75 pagodas (*varaha*s) for a price of 300 pagodas (*hon*s), implying a ratio of 1:4.[15] The last two inscriptions agree that the peasants' rights were extinguished, the latter stating that they were just paid 75 pagodas in order to meet the (current year's?) taxes. It is significant that in an inscription of 1374, a deceased landowner's property not only included such items as tank, garden, wet lands, dry lands, goods, gold, silver, brass (bronze?), utensils, grains, crops, money, etc.', but also 'village tenants' and 'servants'. The last categories were thus deemed to be permanently attached to the landowner, so that his right over them was thought to also devolve on his heirs.[16]

The roots of resources for the acquisition of such landed property lay partly in the past, when the *mahājanas* and headmen acquired resources out of their previous land-holdings and perquisites, and the Brahmana land-holders in *agrahāra* and other tax-free lands similarly gathered wealth from their rental earnings. The source of such 'capital' lay partly in the contemporary political system, which passed on portions of state revenues to officials through salaries and territorial assignments. We have just seen in a preceding paragraph how a royal minister purchased a village at a price five times the annual revenue. Finally, some capital to purchase land could have come from commerce.[17] We find the *seṭṭi*s, or merchants, enjoying a fairly important place in rural life. It was their guild, after all, which decided in one case which person should hold the office of a village accountant,[18] and we meet them fairly often in inscriptions concerning rural matters or temple affairs.

All 'proprietary' claims, of whatever hue, over land were limited by the state's fiscal exactions, the sole exception being possibly formed by land-holdings of temples and individuals in tax-free villages. In the three instances in Kannada inscriptions where both the purchase price of villages and the amount of tax demand laid annually on them are given, the annual tax ranges from 20 to 30 per cent of the price.[19] Even if the purchaser aimed at recovering his investment from his net rental within 10 years, that annual income would have been much smaller in most cases than the tax imposed by the state on the same land. Venkataramanayya indeed cites an inscription which records that 'the government claimed

muggōru and even *sangōru* from certain types of land', going on to explain, by quoting from the *Aṭṭhavaṇa Tantram*, that the former meant one-third of the produce and the latter one half.[20] Such appropriation of the surplus on behalf of the state could leave only limited room for private rent, even if we ignore Nuniz's statement that not just a half or a third, but as much as nine-tenths of the produce was paid in tax by the 'husbandmen' to their 'lords' holding the land on behalf of the King.[21]

We can deduce not only from these references, but also from others found in the inscriptions that each village used to have a standard figure of annual tax attached to it, usually in terms of pagodas. In 1398, when a hamlet in Mysore district was assigned by King Harihara II to meet certain temple expenses, the hamlet was found to yield 25 pagodas (*varaha-gaḍyaṇa*s).[22] When in 1457 King Mallikārjuna granted a village in Udupi district to a high officer of his, the annual tax it was expected to pay amounted to 840 pagodas (*kati-gaḍyaṇa*s).[23] Another inscription of 1392 from Chikkamaglur district is of particular value since it suggests that the total land tax was built up of amounts levied upon individual peasants (*kuḷa*s). It is stated here that when King Harihara II granted a village to a group of donees, the *kuḷas* of the village were assigned to the several named donees, and that the tax shares assigned along with these *kula*s totalled 215 pagodas (*varaha-gaḍyaṇa*s) and two *paṇa*s, which would now be the income of the donees since they were henceforth freed from the burden of all taxes and imposts.[24]

The various ways in which the land tax was assessed is shown by a document of 1340 from southern Andhra. Here, a person who volunteered to clear away forests and establish cultivation was offered a concessional tax rate of half a *ghaṭṭi aḍḍaga* from land producing a *tūm* of grain. If a *ghaṭṭi* equalled a *muṅta* of traditional weight, this would mean that one-eighth of the produce was to be claimed (whether through estimation or actual division is not clear). After the expiry of the period of this concession, the tax rate was to be three *rūka*s from land producing one *tūm*. *Rūka*, being a silver coin, implied a money rate on land of varying sizes, determined by productivity.[25] What share of the value of the crop the rate here represented we have little means of knowing. It may, however, be observed that the same deed goes on to refer to the duty of the *karaṇika* or village accountant to record in his *guḍikaṭṭu* register the various fields (*māru palam sāgiñchi*) in the village, and requires the record to be brought to the headquarters, apparently to establish the extent of the arable, and, as such, of the taxable area.

Besides the land tax, the villages had to pay other taxes as well. If one confines oneself to inscriptions concerned with villages and hamlets and exclude those dealing with markets, one still finds such taxes specified as canal dues (*kāvali-deṛe*), taxes on grazing fields and on goats, on basket-making, on sugar mills, on looms, and on potters, oilmen, barbers, washermen, braziers, fishermen and salt makers, a marriage cess, and a levy on head loads (brought into or taken out of the village?), and this does not exhaust the list.[26] The taxation system thus seems to have proceeded on the premise that the poor deserved to be taxed most, though it is not clear, again, precisely how heavy was the fiscal burden that was actually borne by these lowly tax payers.

On the other hand, the powerful and the priestly received exemptions from taxes as well as tax-free land grants (which were, in fact, transfers of tax revenues to them). But these may be best dealt with when we discuss in Chapter 21 the forms in which the state transferred or alienated its taxation rights.

TAMIL COUNTRY

The agrarian conditions in Tamil Nadu, especially of the Kaveri basin, have been studied by N. Karashima and Y. Subbarayalu with detailed scrutiny of inscriptions, both published and unpublished.[27] The account below is largely based on their findings.

As in the northern regions, rural society here was fairly deeply stratified. At the bottom were the 'untouchable' Paṛaiyas ('pariahs') held down serf-like to perform various menial services for the *ūr*, or village. The large number of Paraiya slaves of individual landowners mentioned in inscriptions suggests their extensive use as field labourers.[28] Though the evidence relating to ordinary peasants is admitted to be 'scanty', Subbarayalu distinguishes two kinds of peasants: small landholders ('*kāṇi* holders'), directly paying tax to authorities, and tenants (*kuḍi* or *kuḍimakkaḷ*) who tilled the lands of the landowners (*kāṇiyāḷar)*.[29] A major part of these peasants consisted of the 'touchable' Veḷḷāḷas, who could also, on the one hand, become slaves, though of a superior sort,[30] and on the other rise to join the Brahmanas as landowners. In the dry (unirrigated) zones of the Tiruchirapalli district, members of other castes such as the Churutiman, Nattamān, Malayamān and Paḷḷi, also appear in the ranks of peasants.

A very large portion of the landowners (*kaṇiyāḷar*) were Brahamanas, doubtless owing to their having been granted such large areas in tax-free grants. One may suppose, on the other hand, that it was from earnings gained as headmen and intermediaries that groups from the Veḷḷāḷas could transform themselves into substantial landowners. Subbarayalu says that, possibly as a result of successful participation in the Choḷa military system, certain castes like the Paḷḷi, Churutiman Akampaṭi and Shri-gopālas also obtained enough resources or clout to find representation among landowners. These non-Brahmana landholders mainly formed *naṭṭār* or *nāḍu* assemblies, taking decisions on behalf of the villages under them. Among themselves they developed collaboration over larger territorial units, characteristically called 'the bigger *nāḍu* with the beautiful plough'.

These developments offer obvious parallels to the conditions prevalent in Karnataka and south Andhra; there was still one feature that seems peculiar to the Tamil region, namely the emergence of two rival groups within castes, divided up vertically, the so-called Right-hand (*valaṅgai*) and Left-hand (*iḍaṅgai*) groups, each comprising a conventional number of 98 castes. The epigraphic evidence for a clash between the two groups (in western Thanjavur district) goes back to the eleventh century, but thereafter it is the 'Left-hand' group whose assertions are largely recorded in the inscriptions. Subbarayalu believes that this represented the growing importance of new peasant groups, challenging, through their expressions and rituals of solidarity, 'the old peasants of the wet zone', who presumably became, through a process of reduction, the 'Right-hand' groups. Both the Right-hand and Left-hand groups, however, included non-peasant castes such as those of artisans, as well as higher-ranking castes, and usually excluded the outcastes, notably the Paṛaiyas. There must have been other factors, too, than the rise of a new set of peasant groups that led to the formation of these rival caste federations, but much obscurity prevails over this question.[31]

A view has been held, expressed in varying versions, that the conquest of the Tamil country—or, at any rate, of its larger part, Vijayanagara—during the latter half of the fourteenth century led to a considerable dislocation of the rural economy. T.V. Mahalingam held that the conquest led to 'colonization of Tamil India' by Telugu and Kannada communities, which 'told hard on the social status of the earlier inhabitants'.[32] Burton Stein speaks of 'the intrusion

of Telugu warriors', accompanied by 'Telugu Brahmans, cultivators, labourers, and mercantile groups', but doubts that they actually displaced Tamil peasants on any large scale, since they tended to settle on lands left untilled by Tamils.[33] It seems, however, that it was the more vigorous fiscal measures of the new, centralized regime under Vijayanagara, rather than the migrations, which created the major grounds for peasant unrest in Tamil Nadu.

That such an enhancement in tax revenue was taking place is evidenced by two long inscriptions of 1429 (a landmark year, as we shall presently see). These record tax rates which the local castes, both Right-hand and Left-hand, had now decided to decree.[34] It is alleged there that the Vijayanagara authorities wished to set higher tax rates and convert hitherto tax-free land into taxable land, and it is therefore proclaimed that the local tax payers of both the great caste federations had now gathered to resist these excesses. It is particularly mentioned that tax assessments had become exorbitant since the country came into possession of the Kannadigas (Vijayanagara).[35] The formal share of the produce taken as tax is given in two inscriptions from Poddukottai district: the first, of 1462, puts it at one-half; the other, of 1481, at one-sixth to one-third, the size varying with crops, seasons and wet or dry lands.[36] The 1481 inscription, however, by its very context (a grant to a hermit), implies that the tax levels specified in it were of a concessional character. One may, then, infer that one-half was the norm in most cases. However, where the crop was not physically divided, the question arises as to how the tax could have been assessed to conform to this share in volume (if taken in kind) or value (if taken in money), and whether the assessment was actually meant at all to conform strictly to the theoretical norm.

We see from the Thanjavur district inscriptions of 1429 that the amount of tax was levied on a unit of area of land (*veli*). In the case of paddy, it was partly rated in kind (*kalam*), partly in money (*paṇam*). In the case of all other crops mentioned (sugarcane, plantain, turmeric, ginger, cotton, wheat, etc.), only money rates applied.[37] Dependent on actual produce and prevailing prices, the tax, as share of the crop, would not but have greatly varied in each case and from year to year.

In any case, as already mentioned, the tax rates given in the Thanjavur district inscriptions were the maximum the local tax payers were prepared to pay. Their authors themselves declare that what they were now setting forth 'had been already settled by the inhabitants of the other *nāḍus*' of the territory. What was done elsewhere in that year (1429) has been recorded in as many as seven other inscriptions found in Tiruchirappali, south Arcot and Thanjavur districts. Their evidence has been analysed in a careful study by Karashima and Subbarayalu.[38]

These inscriptions show that there were on the one side the Right-hand ('*Valaṅgai-98*') and Left-hand ('*Iḍaṅgai-98*') castes, which together comprised peasants (whose *jāti*s are not specified) and a number of *jāti*s of merchants, weavers, herders, oil-merchants, blacksmiths, goldsmiths, potters, barbers, washermen, watchmen, craftsmen-Paṛaiyas, soldiers and toddy-tappers—there were as many as five *jāti*s of merchants and four of weavers, while the occupations of two *jāti*s are not clear. The inclusion of the artisanal Paṛaiyas is significant as indicating that the level of popular solidarity attained not only transcended the Right- and Left-hand division, but also, at least partly, the caste and out-caste barrier. This popular unity confronted the established classes, whose oppressions the protesting castes refused henceforth to countenance, even if the local Vijayanagara governor (*uchāvaḍi pradhāni*), the *vaṇṇiyar* (the soldiery) and the *jīvitakkārar* (officials holding lands or taxation rights in lieu of service) tried to coerce them, or the Brāhmaṇa and Veḷḷāḷa landholders (*kāṇiyāḷar*) joined together to

oppress them, in collusion with the local officials (*irājagarattār*). The classes that the people saw as their oppressors are admirably well-defined here.

The grievances were numerous: there was unjust taxation, assessment was inflated by using smaller rods to measure the land, land cultivated or held by peasants was being leased out, and tax-free land was being made taxable. The merchants and artisans were rallied apparently because they too were heavily taxed, so that the Thanjavur district inscriptions of 1429 laid out fair rates for them too.[39] A species of non-cooperation with officials and social ostracism of those within who broke with the popular decision was proclaimed.

Though no violent clash with the authorities seems to have taken place, subsequent inscriptions suggest that the united act of defiance over such a large area had its effect, and official policy tried to reconcile local elements by seeking to moderate the oppressive acts and impositions that had led to the peasant uprising. An inscription of 1446 from south Arcot district proclaims the Vijayanagara emperor's determination to lower the tax burden on the Right-hand and Left-hand castes, and admonishes officials who had only partly implemented the orders to this effect in the past. Just as the protesters had set up inscriptions at various places, the emperor too ordered inscriptions proclaiming the concessions and remissions to be set up at various places.[40]

Whether in due time repression assumed its normal course, we do not know. But even so, the incident offers a remarkable instance of large-scale successful peasant resistance in medieval India.

NOTES AND REFERENCES

1. See, for example, inscription from Shivamogga district of the reign of Krishṇadēvarāya (1509–30), Ritti and Gopal, *Inscriptions*, II, pp. 378–79. For the phrase *gauḍa-praje*, see also I(1), pp. 246–48, 297–300.
2. Sastri and Venkataramanayya, *Further Sources*, III, pp. 25–26.
3. Ritti and Gopal, *Inscriptions*, I(2), pp. 797–805.
4. Cf. Baden Powell, 'Villages of Goa in the Early 16th Century', *JRAS*, 1900, p. 268 (translated words slightly simplified).
5. Sastri and Venkataramanayya, *Further Sources*, III, pp. 314–16. The decision was not taken, be it noted, by any assembly of the villagers but by the 'merchant-guild' of Sirivarla, holding court in a temple of that township.
6. Powell, 'Villages of Goa in the Early 16th Century', p. 268.
7. Inscription of the time of Devarāya II from Mandya district (Ritti and Gopal, *Inscriptions*, I[4], pp. 1666–67).
8. Ibid., I(1), pp. 228–29.
9. For a clear case see an inscription of 1419 from the Bellary district (Ritti and Gopal, *Inscriptions*, I[3], pp. 1161–66).
10. Ibid., I(5), pp. 1758–61. One wonders how the commission of 80 pagodas was distributed among 'the dignitaries'. *Janani* seems to be derived from land (*janana*) (ibid., I[1] editors' introd., pp. lxx–lxxi, citing K.V. Ramesh; the editors' own suggestion that it just means 'local residents' is not convincing). *Jagat* means 'world', and so people at large. *Heggaḍe*, like *gauḍa* (with variants), is a well-known Kannada term for village headman.
11. Ibid., I(1), pp. 164–66.
12. Ibid., I(3), pp. 980–85. The word *samaya* is left unexplained by the editors. The *samaya*s appear, from the context, to be a higher level of territorial magnates or officials, like *desai*s or *deshmukh*s of Gujarat and Maharashtra.

13. Ibid., I(1), pp. 178–80.
14. Ibid., I(2), pp. 758–68.
15. Ibid., I(4), pp. 1651–57.
16. Ibid., I(1), pp. 246–48.
17. For one such act of purchase in 1540 in north Arcot, see Karashima, *Towards a New Formation*, p. 22 (insc. no. 22).
18. See note 5 above.
19. Ritti and Gopal, *Inscriptions*, I(1), pp. 178–80; I(2), pp. 758–68; I(4), pp. 1651–57.
20. Venkata Ramanayya, *Third Dynasty*, pp. 196–97.
21. Nuniz in Sewell*, Forgotten Empire*, p. 360.
22. Ritti and Gopal, *Inscriptions*, I(2), pp. 677–78.
23. Ibid., I(5), pp. 1758–61.
24. Ibid., I(2), pp. 547–49.
25. For the inscription, see Sastri and Venkataramanayya, *Further Sources*, III, pp. 25–26. For *tūm*, see Mahalingam, *Administration and Social Life,* pt 2, p. 169; and for both *tūm* and *rūka*, see Yule and Burnell, *Hobson-Jobson*, p. 767 (s.v. *rocka* [b]) and p. 567 (s.v. *mercall*).
26. See Ritti and Gopal, *Inscriptions*, I(2) pp. 426–29 (insc. of 1383, Hassan dist.), pp. 727–29, 746–47 (two inscriptions of 1402 from the same site in Mandya Dist.); I(4), pp. 1562–64 (inscription of 1440, Mandya Dist.); and II, pp. 256–57 (inscription of 1521, Mysore Dist.). For some of the taxes listed in the text, see also Venkata Ramanayya, *Third Dynasty*, pp. 201–05.
27. Some of Karashima's and Subbarayalu's major findings are to be found in three papers published in Noboru Karashima, *Socio-cultural Change*, part 1: (1) Y. Subbarayalu, 'The Peasantry of Tiruchirapalli District, from 13th to 17th Centuries' (pp. 123–32); (2) N. Karashima and Y. Subbarayalu, 'Valangi/ Idangi, Kaniyalar and Trajagarathar: Social Conflict in Tamilnadu in the 15th century' (pp. 133–60); and (3) Y. Subbarayalu and R. Shanmugam, 'A Note on the Rates of Assessment under the Vijayanagar Government' (pp. 161–68). Karashima's own *Towards a New Formation*, not only reprints essay (2), pp. 141–58, but has throughout much important material to offer on the society and economy of Tamil Nadu, *c*. 1300 to *c*. 1700.
28. An inscription of 1374 (Tiruchirappalli district) recording the gift of property to a woman by a local magnate includes three Veḷḷāḷa slaves (two women, one male) and seven untouchable Pulaiyas (five males, two females), all of the latter described as composing a labourer's family. An inscription of 1388 (Chingleput district) records the sale of land, a house and three Veḷḷāḷa and 16 Paraiya slaves (Karashima, *Towards a New Formation*, pp. 124–26). The Veḷḷāḷa belonged to a higher caste, and were probably household slaves only.
29. On the *kuḍi* as 'occupant cultivators', see also Karashima, *Towards a New Formation*, pp. 126–29.
30. See note 27.
31. The previous paragraphs in this section are based on Y. Subbarayalu in Krashima, *Socio-cultural Change*, pt 1, pp. 123–27, and notes on pp. 129–30, giving references to sources, and on Karashima, *Towards a New Formation*, pp. 117–30.
32. Mahalingam, *Administration and Social Life*, II, pp. 28–30.
33. Stein in Raychaudhuri and Habib, *Economic History of India*, I, pp. 110–11. He offers no evidence to support this argument.
34. These rates were first scrutinized by Mahalingam in the first edition of his *Administration and Social Life* (one volume edn), pp. 51–54, and now, again, by Y. Subbarayalu and P. Shanmugam in Karashima, *Socio-cultural Changes*, I, pp. 161–68.
35. Karashima, *Towards a New Formation*, p. 144. The same statement is made in an inscription of 1504–05 from South Arcot district (Mahalingam, *Administration and Social Life*, p. 55).
36. Ibid., pp. 54–55.
37. See note 34.
38. See essay (2) in note 27.
39. Subbarayalu and Shanmugam in Karashima, *Social-cultural Change*, Tables 2–5, pp. 166–68.
40. N. Karashima and Y. Subbarayalu, essay reprinted in Karashima, *Towards a New Formation*, p. 152.

CHAPTER 21

The Financial Structure of the Empire

Irfan Habib

We have arranged the following survey of the finances of the Vijayanagara Empire on the assumption that its basic source of income lay in the taxes collected in the countryside; and that by the mode of expenditure of the revenues and by the trade it induced by levying the land tax in money, it could provide a basis for the further expansion of both towns and trade (the theme of our next chapter). It may broadly be further hypothesized that the more the fiscal resources were concentrated in the hands of the imperial apparatus, the larger could have been the amount of expenditure on concentrated points, a situation that was more likely to contribute to urbanization than any redistributive mechanisms that were confined chiefly to localities.

Essentially, we would wish to proceed beyond a mere acknowledgement of the 'complexities' of the system, such as has frequently been urged by Burton Stein, and to see whether the mode of appropriation and redistribution through the imperial structure cannot be broadly reconstructed in its main elements from the varied sources we have.

Let us begin with the *Rāyavāchakam*, which is thought to have been composed in the late years of the sixteenth century.[1] There is apparently no reason to doubt the picture it draws of the system of territorial assignments that had existed in the empire. It tells us that in *c*. 1517, Krishṇadēvarāya asked that the amounts of revenue due to the imperial treasury be submitted to him. These came annually to 108.4 million pagodas (*ghaṭṭi-varāha*s). Of these, six million pagodas were alienated through land grants to temples (*dēvadāya*), Brahmanas (*brahmadāya*), other grantees (*sarvamanya*) and monastic establishments (*maṭhapura*). As for the remainder, the bulk of the territory, under numerous forts, yielding 48 million pagodas, was distributed among *amara-nāyaka*s. In return for the control given to them of the tax resources of their assignments, the *amara-nāyaka*s had to maintain some 24,000 horses, 120 *ghaṭ*s (?) of elephants, and 200,000 foot for imperial service. They had, however, fallen far short in maintaining the required number of forces during the previous 10 years. The king therefore demanded that they pay in money the arrears they owed against the shortfall in troop maintenance. Such *amara-nāyaka*s as failed to do so were then compelled to surrender their existing animals and troops to the king in lieu of the arrears.[2]

While the details provided by them are different, the accounts of Paes (who visited Vijayanagara when Krishṇadēvarāya was on the throne) and of Nuniz (who did so during the

reign of Krishṇadēvarāya's successor, Achyūta-rāya) largely corroborate the tradition related in the *Rāyavāchakam*. Only, their figures for the size of money collections and payments are more moderate than the incredibly inflated ones of the Telugu chronicle.

Paes tells us that the imperial territories were assigned to 'great lords' or 'captains', who in return were expected to maintain particular numbers of troops for the emperor, and in addition make annual payments of certain amounts to the King.[3] Nuniz says that these 'nobles' were like 'rentiers', and held districts from the king in return for maintaining a total of 24,000 horses (curiously, the same figure as in the *Rāyavāchakam*) and 600,000 men. Nuniz adds that from their territories, they were expected to collect 12 million pagodas, half of which they retained to pay their troops and half (six million) they remitted annually to the King.[4] Nuniz also furnishes a list of the great 'nayques' (*nāyaka*s) who held various districts, specifying the revenues assigned to them and the size of the forces they had to maintain. He put the total number of the 'captains', who were thus given districts and were expected, in return, to maintain troops and make payments to the King, at about 200.[5]

It is difficult to be sure as to how far the Vijayanagara rulers were able to compel the *nāyaka*-governors to remit to the royal treasury the designated part of the revenues that they collected. As the account in the *Rāyavāchakam* shows, there could have been periods where the *amara-nāyaka*s exercised practical autonomy and were little mindful of their obligations. Here, the term *amara* as a prefix assumes some importance. If Ritti is right in suggesting that *amara* should be taken in the sense of the Sanskrit word *amara* meaning permanent, eternal, then one can see in the *amara-nāyaka*s a species of *nāyaka*s who held permanent fiefs. In such a case, imperial control over them must have been necessarily weak.[6] But Ritti concedes that in one inscription (of 1516), the term *amara* is linked to the *nāyaka*'s maintaining a *paḍe* or contingent of soldiers.[7] Both Venkata Ramanayya and Mahalingam take *amara* to be derived from (or surviving in) *amaram*, a term in Tamil usage standing for 'military tenure' or an assignment given for the maintenance of a military contingent.[8] In such a case, the word *amara* signified the nature of the assignee's obligation rather than the permanence of the appointment. Ramanayya provides us with instances where *nāyaka*s were transferred, as part of routine, although none of the *nāyaka*s transferred is actually designated *amara-nāyaka*.[9] In any case, since the *amara-nāyaka*s held their territorial holdings subject to the condition of providing troops and payment of tribute, as the *Rāyavāchakam*'s account of Krishṇadēvarāya's measures shows, their assignments were all presumably resumable when these conditions were not met.[10]

Apart from the tribute received from the *amara-nāyaka*s and other assignees, the king derived taxes directly from the territory that he did not assign away, notably the capital and its surrounding district.[11] Ramanayya supposes that the villages belonging to these 'crown lands' were designated *bhaṇḍāravāḍa* (belonging to the *bhaṇḍāra* or treasury) in the inscriptions.[12] This term obviously meant land reserved for the king's treasury, but could also apply to land that was reserved for his own treasury by any *nāyaka*, while he sub-assigned other land placed under him to his subordinates, including inferior *nāyaka*s, or made it over in tax-free grants to temples, Brahmanas or others. This sense seems to explain the use of this term in its Tamil form *paṇḍāravāḍai*, to which Karashima draws our attention, citing several inscriptions.[13]

Besides transferring territories in assignments to his officers, the King also granted villages tax-free to temples, their priests and other Brahmanas, the several categories of which, namely *dēvadāya, brahmadāya, sarvamanya* and *maṭhapura*, we have already encountered in the passage from the *Rāyavāchakam*; the inscriptions, in addition to using these terms,

frequently employ the term *agrahara* for villages so granted away. The *Rāyavāchakam* gives figures, which show that about 5.54 per cent of the total tax revenues were thus granted away.[14] This is a much more moderate proportion than that given by Nuniz, namely a fifth part of the total 'revenue of the kingdom'.[15]

To the grants made by the king were added the grants made to temples and religious men by such governors and *nāyaka*s as held territorial assignments received from the king. These grants were presumably valid only for as long as the grantor held the territory, though this condition does not often appear in inscriptions that record such grants.[16] It is naturally not possible to compute how much revenue was thus alienated for the maintenance of the temples and the priestly class.

The agrarian surplus that was thus appropriated and then distributed provided an impetus to trade since it created an extensive demand for goods and services from those who shared in the 'redistribution'. About 150 years after the death of Krishṇadēvarāya, an acute observer noted that it was the large amount of surplus obtainable in South India, its size exceptionally large because of the great productivity of the soil, on the one hand, and the low cost of subsistence of the producers on the other, which made it possible for the rulers to build the monumental temples that he found there.[17] A part of the surplus, it is true, did remain within the localities through grants made to temples and priests, as we have seen; and resources so alienated still helped to support some local professions and artisans. The temples, for example, required supplies of lamps, lamp oil, cloth, sandal paste, flowers, etc., and the services of dancing girls, sweepers, and other servants, besides, of course, the priests themselves.[18] A local sector of non-agricultural employment was thus created.

The revenues that remained with the *nāyaka*s and the large net income that accrued to the emperor must have been spent on the army, luxury goods, and services and establishments of harem women and slaves. The *nāyaka*s maintained 24,000 horses and the King in addition had a standing force of 6,000 horses.[19] Since good quality horses could not be bred in the country, these had to be imported; and this must have given an added impetus to foreign trade. Karnataka had a large population of wild elephants, and it is thus not surprising that the King kept over 900 of them in his own stables.[20] One might suppose that the elephants were directly obtained through officially organized hunts, but Barbosa says that the king purchased them, and this suggests that a private industry of elephant capture and trade existed. Some elephants, like most war-horses, must also have been obtained from merchants who brought them from abroad. In the *Rājniti*, Krishṇadēvarāya counsels good treatment of 'merchants of distant islands', who bring horses and elephants so that they secure good profits here and do not sell to the enemies of the empire.[21]

The emperor and his *nāyaka*s also employed multitudes of foot soldiers, the number being put at a million or even a million and a half.[22] Barbosa says that the King had, in his own pay, 100,000 men.[23] But there were others too whom he employed, like 1,600 grooms to look after the horses, 3,000 attendants for elephants, 300 horse-trainers and 2,000 'artificers', namely blacksmiths, masons, carpenters and washermen—all receiving wages daily from the King.[24] Women too were employed, some 6,000, 'all unmarried' and expected, as musicians, dancers and acrobats, to entertain the troops.[25] The maintenance of such a large assemblage could in turn have generated much subsidiary employment, exerting a kind of multiplier effect.

A similar consequence could be expected from the large palace establishment of the emperor. The number of women within the royal palace complex exceeded 4,000, if not

12,000, the inmates comprising the King's wives, dancing girls, (palanquin-)bearers, wrestlers, washerwomen, soothsayers, and female account-keepers and musicians.[26] The king's own wives and concubines numbered about 700, according to 'Abdu'r Razzāq (1443); and this broadly accords with Barbosa's report that 400 or 500 such women committed sati when a king died.[27] When the palace women came out at a festival, their exceptionally heavy ornaments of 'gold and precious stones' and rich attire were particularly noted.[28] These establishments and the demand for jewels and gold and other luxuries necessarily created a large market for luxury goods and services. Eunuchs were employed as women's guards, so that a slave trade on some scale also existed.[29] On the other hand, the continuous building of the great temples at Vijayanagara, of which Paes speaks, must have also continuously occupied a large number of masons, stone-cutters and other workers.[30]

It may be expected that the individual provincial governors and principal *nāyaka*s had similar patterns of life, consumption and attitudes, and so they too generated the same economic impulses as did the royal court, though admittedly in miniature.

A few remarks may be made here on the Vijayanagara coinage. Although there is no evidence that any gold was mined within the empire, the Kolar mines being apparently long before abandoned, the standard unit of money of the kingdom was a round gold coin of over 50 grains, called *varaha* or *gaḍyāna* or *hon* in the inscriptions and 'pagoda' in later European accounts. 'Abdu'r Razzāq, visiting Vijayanagara in 1443, found the mint situated near the royal palace. Here, the *varaha*s were coined of gold mixed with alloy. He says that *fanam*s (*panam*s), put at one-twentieth of the *varaha* in value, were also made out of such alloyed gold, but the *tar*, a fifth of the *fanam* in value, was made of cast silver. A copper coin for fractional use (called *jītal* by 'Abdu'r Razzāq) was also minted.[31] A gold *fanam* generally weighs about four grains, and the silver coins of the Vijayanagara rulers are rather rare. Gold for coinage must have been imported; and Barbosa in 1516 also mentions copper being imported through the Kanara port of Bhatkal for use in Vijayanagra coinage.[32]

NOTES AND REFERENCES

1. On this Telugu work, see Venkata Ramanayya, *Third Dynasty*, pp. xxv–xxvi.
2. Sastri and Venkataramanayya, *Further Sources*, III, pp. 145–52. All the amounts of money mentioned in this source are obviously highly exaggerated.
3. Paes in Sewell, *Forgotten Empire*, pp. 269–70.
4. Nuniz in Sewell, *Forgotten Empire*, pp. 354–55. 'Abdu'r Razzāq also says: 'The usage of the country is that at a stated period, everyone throughout the whole empire, carries to the mint the revenue [*zar*, lit. gold, money] which is due from him' (Elliot and Dowson, *History of India*, IV, p. 109). This sentence is differently rendered in Major, *India in the Fifteenth Century*, p. 26. The persons bringing the revenue here must be the governors of provinces and territorial assignees.
5. Ibid., pp. 360, 367–70.
6. Srinivas Ritti, 'Introduction', Ritti and Gopal, *Inscriptions*, II, pp. lxxvi–lxxviii.
7. For this inscription see ibid., II, pp. 180–81 (the phrase occurring in line 11 of the inscription, on p. 180).
8. Ramanayya, *Third Dynasty*, pp. 170–71; Mahalingam, *Administration and Social Life*, p. 140.
9. Ramanayya, *Third Dynasty*, pp. 172–73. Also Nuniz (Sewell, *Forgotten Empire*, p. 366): 'And the King, whenever he wishes, takes away [the] property of these nobles.'
10. One may note in passing that the term *amara-nāyaka* appears to belong to the later phase of Vijayanagara history. In the first century of the Empire, the governors were most often called *pradhān*s; and, as Karashima shows, the term *nāyaka* itself comes far more frequently into use from the last quarter of

the fifteenth century (*Towards a New Formation*, pp. 107–08, his sample is furnished by inscriptions in Chingleput District, Tamil Nadu). Karashima's findings as to the growth of *amara-nāyaka* assignments after *c.* 1496 appear to be corroborated by the frequency of references to them in inscriptions from the Andhra districts of the Vijayanagara Empire after that year. Cf. Cynthia Talbot 'The Nayakas of Vijayanagara Andhra' in Kenneth R. Hall (ed), *Strucutre and Society in Early South India*, New Delhi, 2001, pp. 251–75.

11. Cf. Paes in Sewell, *Forgotten Empire*, p. 270, saying that the king maintained his own troops out of 'the revenues that he receives from this city of Bisnaga [Vijayanagara].'
12. Ramanayya, *Third Dynasty*, pp. 168–70.
13. Karashima, *Towards a New Formation*, pp. 205–08. All the examples that Karashima offers are consistent with the interpretation here given, though he himself argues that *paṇḍāravādai* simply referred to 'taxable land' which, indeed, it did, but to only a particular species of it. An analogous case will be found in the term *kẖāliṣa* used in the Mughal Empire (cf. Habib, *Agrarian System*, pp. 300, 313, *kẖāliṣa* used for territory not assigned by the emperor in *jāgīr*, and p. 329n for territory not sub-assigned to others by the *jāgīrdār*s).
14. Sastri and Venkataramanayya, *Further Sources*, p. 145.
15. Nuniz in Sewell, *Forgotten Empire*, pp. 291–92. If Nuniz is right in his figure of 13 million gold (pagodas) for the revenues of the kingdom, a fifth of it should have amounted to 2.6 million. Paes in 1520–22 found that the great temple of Krishnapura, close to Vijayanagara, had from taxes granted to it 'a revenue of a hundred thousand pardaos (pagodas) of gold' (Sewell, *Forgotten Empire*, p. 278).
16. See, for example: Ritti and Gopal, *Inscriptions*, I(2), pp. 602–12, and II, pp. 180–81, 236, 361–62; and Sastri and Venkataramanayya, *Further Sources*, III, pp. 137–38.
17. Bhimsen, *Nusẖa-i Dilkushā*, British Library, MS, Or.23, ff.112b-113b.
18. See Ritti and Gopal, *Inscriptions of Vijayanagara Rulers*, I (1), pp. 164–66, 228–29; I (4), pp. 1622-24; I (5), pp. 1949–51, and II, pp. 272–73; and the Goa document of 1526, Powell, 'Villages of Goa in the Early 16th Century', p. 268. On the temple dancing girls, see also Barbosa, *Book of Duarte Barbosa*, I, p. 216 and Paes in Sewell, p. 234.
19. Nuniz in Sewell, *Forgotten Empire*, pp. 354, 361. Barbosa, *Book of Duarte Barbosa*, I, p. 210, writing earlier (1516), says the emperor had 20,000 horses, distributed among 'the great lords' for maintenance. These, one assumes, correspond to the 24,000 horses that, according to Nuniz, the great captains were obliged to keep. See also the extract from the *Rāyavāchakam*, translation in Sastri and Venkataramanayya, *Further Sources*, III, p. 150.
20. Barbosa, *Book of Duarte Barbosa*, I, pp. 209–10. 'Abdu'r Razzāq (1443) put the number at 1,000 (Major, *India in the Fifteenth Century*, p. 22).
21. Sastri and Venkataramanayya, *Further Sources*, III, p. 162.
22. 'Abdu'r Razzāq in Major, *India in the Fifteenth Century*, p. 22; Paes in Sewell, *Forgotten Empire*, pp. 268–69.
23. Barbosa, *Book of Duarte Barbosa*, I, p. 211.
24. Nuniz in Sewell, *Forgotten Empire*, pp. 361–62.
25. Barbosa, *Book of Duarte Barbosa*, I, pp. 211–12, 225.
26. Paes and Nuniz in Sewell, *Forgotten Empire*, pp. 240–41, 362–63. Nuniz's estimate of 4,000 is far more moderate than those of Nicoló Conti (Major, *India in the Fifteenth Century*, p. 6) and Paes (Sewell, *Forgotten Empire*, p. 240), who speak of 12,000 women kept in the palace. Conti describes them as being put in different ranks, 2,000 or 3,000 being treated as the King's wives, committed to mount the pyre when he died. On the harem women, see also Barbosa, *Book of Duarte Barbosa*, I, p. 208.
27. Major, *India in the Fifteenth Century*, p. 32; Barbosa, *Book of Duarte Barbosa*, I, p. 216.
28. Paes and Nuniz in Sewell, *Forgotten Empire*, pp. 240, 260, 262–63, 359–60.
29. Paes in Sewell, *Forgotten Empire*, p. 240, 277.
30. Ibid., pp. 250–53, 278.
31. Major, *India in the Fifteenth Century*, p. 26. See also Barbosa, *Book of Duarte Barbosa*, I, pp. 203–04.
32. Barbosa, *Book of Duarte Barbosa*, I, p. 191.

CHAPTER 22

Towns, Mines, Manufactures and Trade

Irfan Habib

We have seen how the mode of expenditure of state revenues tended to foster concentrations of service populations and artisanal classes around the royal courts and *nāyaka*s' headquarters; and how these co-existed with the semi-urban centres that grew up around the great temples, maintained chiefly on revenues from tax grants. The towns so sustained were both markets and production centres where, except for extractive industries such as mining and timber-cutting, much of non-agricultural production was to be found. We would naturally be much helped in forming an impression of the size of the urban sector if we could frame some estimate of the numbers of people these towns contained.

Unfortunately, even for Vijayanagara, precise numbers are wanting, though it is acclaimed for its great size by 'Abdu'r Razzāq (in 1443) who compared it with Herāt, then the capital of the Timurid Empire, as well as by Barbosa (in 1516), who must have seen the large city of Seville in Spain, if not Venice in Italy.[1] Visiting the city in 1520–22, Paes said that when viewed from a neighbouring range of hills, it 'seemed to me as large as Rome'.[2] Rome contained in the early sixteenth century an estimated population in the range of 40,000 to 60,000.[3] But Paes himself says elsewhere that the city contained 100,000 houses;[4] and if one supposes that each house contained on an average of no more than four persons, this would give us a population of 400,000, six to 10 times that of Rome at the time. A statement by Nicoló Conti, an earlier visitor (1419–44), seems to confirm this estimate since he says that 'in this city there are 90,000 men fit to bear arms';[5] and if each family of four contained one such adult male, this would yield a figure of 360,000. Vijayanagara was, then, undoubtedly a very large city for its times.

We do not know how numerous, and of what sizes, the other cities and towns within the Vijayanagara empire were. Conti tells us that Penugonda ('Pelagonda') was 10 miles in circumference; but the degree of settlement density within this area is not known.[6] Barbosa says that Bhatkal ('Baticala') was 'a fine town' on the Kanara coast, and that there was at it 'great traffic in goods of diverse sorts'—but again, no numbers are given.[7]

A major industry in the empire was diamond-mining. Apparently these mines, situated near Vijayanagara, were discovered relatively recently, and so were called by Barbosa 'the

New Mine', in contrast to the older ones situated within Golkunda. The diamonds of the new mines were reputedly of an inferior quality and fetched in Malabar prices a third less compared to the old mines' diamonds.[8] Nuniz describes these mines as situated in the territory of Gooty, the king receiving 40,000 pagodas from the farmer of these mines, along with all diamonds of over five carats.[9]

Barbosa tells us also of precious stones like hyacinths, amethysts and soft sapphires found in the rivers flowing down the Western Ghats, the stones being taken to Malabar for cutting.[10] Nuniz mentions iron being mined in the territory of 'Avaly' (unidentified) bordering Calicut.[11] The ancient pearl fishery off the port of 'Cahil' or 'Cael' (modern Palanyakayal or Kayal-pattinam in southern Tamil Nadu) is mentioned by Conti and described in some detail by Barbosa.[12] Barbosa, however, says in his account that the port and the fishery belonged to the ruler of 'Coulam' (Kollam or Quilon), and so was outside the control of the Vijayanagara emperor.

Of the metal crafts pursued in Vijayanagara, the available information seems slight. Barbosa tells us of the manufacture of 'cooking pots and other vessels', for which copper was imported through the port of Bhatkal.[13] Despite a translator's reference to a 'brass' factory established by a Tunisian Jewish merchant, Abraham B. Yiju, in a south Indian port as early as 1132–49, it is clear that his workshop really worked in bronze, not brass.[14] There is no evidence yet of brass production being pursued in the Vijayanagara empire. From iron, steel discs ('chacaras' or *chakra*) were made, to be used as weapons of some effect.[15] In the early decades of the sixteenth century, muskets and cannon were being used in the Vijayanagara armies; the muskets must have been made of iron, but of the cannon pieces it is not indicated whether they were made of iron or copper.[16]

There is no evidence of paper manufacture, and there are distinct statements in fifteenth-century sources that only palm leaf was used for writing.[17] Similarly, though there was said to be much wax in the country, it was not used for candles, oil torches being used instead.[18]

A major industry was that of cotton textiles. It is a pity that any references to the southward spread of the use of the spinning wheel, mentioned by 'Iṣāmī writing at Daulatabad in 1350[19] cannot be traced: it is, however, likely that this took place in the period of the Vijayanagara empire. Whether the pedal in the loom, described by a Malwa dictionary in 1469, reached south India within this period is less certain. The allusion to the drawloom that Vijaya Ramaswamy has discerned in a 1538 inscription from Tirupati has actually nothing to do with that apparatus.[21]

Of the varieties of cloth produced, Ramaswamy gives a reference to an inscription from Salem district of *c*. 1540, which mentions *salli* or 'sella'.[22] This is probably Buchanan's 'shilla', described as 'thin white muslin'.[23]

It is probable that cloth-printing had by now arrived. Speaking of the port of Pulicat, north of Chennai, Barbosa (1519) says that 'here are made great store of printed cotton', serving as clothing in 'Malaca (Malaya), Peegu (Myanmar) and, Camatra (Sumatra)', as also Gujarat and Malabar.[24] It is obvious that hand-painted chintz, an expensive variety, could not have served for clothing for large numbers at any time, and so a confusion with painted chintz which the use of the word 'pintado' in Portuguese sources sometimes involves is not to be thought of here.[25] The arrival of cloth printing in south India, then, should be deemed to form

an important stage in its textile production, next, practically, to the arrival of the spinning wheel.

Mulberry silk was not cultured in the Vijayanagara Empire, its later introduction in Mysore being a product of Tippu Sultan's enterprise. Fabrics in silk could still be woven out of imported material, and the statement made in the Spanish and Latin versions of Barbosa's work (but not in the Portuguese version) that Pulicat, besides Gujarat, exported to Pegu 'both cotton and silk [cloths] which they call *patola*s', may yet have some truth behind it.[26]

As a curious product of carpentry and textile work of the period, we may note the open-and-shut umbrella, ancestor to the modern form of the ancient parasol. Barbosa (1516) tells us how men of substance at Vijayanagara were protected from the sun and rain by an umbrella, the 'shade-hats' being made sometimes of finely worked silk, so contrived that they 'open and shut'.[27] Barros (1533) shows us how this was done by canes playing up and down the handle-shaft to close and shut the shade, with a cross-piece of wood inserted into the shaft when the umbrella had to be kept open—this being exactly the essence of the device still in use.[28]

One conjectures that in towns and market centres production was organized mainly under individual artisans. This is also suggested, for example, by the rule made in 1525 for a newly instituted market at a place in Anantapura district, Andhra Pradesh, that the annual tax on an oil mill would be one pagoda (*varaha*); on a loom, three; and on a shop, three. Clearly, no large shops were expected to be established; otherwise, the tax parity between a loom and a shop could hardly have been contemplated. Those dealing with sundry articles (hawkers?) were to pay only one *pagoda*. When the same inscription adds that out of a set of 10 looms, one would be exempt from tax, it may be supposed that it did not here envisage a merchant's workshop with 10 or more looms, but merely promised that if individual weavers came to the market in a number sufficient to work 10 looms, one-tenth of the tax would be remitted.[29]

The major mode of conveyance for goods in the empire was by pack oxen. In the city of Vijayanagara the streets were filled by them, some 2,000 oxen reportedly bringing goods into the city every day.[30] Goods were also carried as head loads by porters.[31] It is curious that bullock carts, which are mentioned in inscriptions for carriage of earth and silt (see Chapter 18), do not seem to have been in use for long-distance carriage. It is likely that the roads were little more than bridle paths, and unsuitable for carts. Resting shelters ('choultries') and drinking-water sheds were provided as works of charity at different points on these 'roads'.[32]

Trade in the products of the Empire and in imported goods was conducted by a large class of merchants, some members of whom exercised considerable influence in the state. There was from the side of the emperor complete freedom of trade: 'the King allows that every man may come and go and live according to his creed … whether he is a Christian, Jew, Moor or Heathen.' The Portuguese observer who made these remarks noted that 'great equity and justice is observed to all'.[33]

The indigenous merchants mostly belonged to the caste of Chatis (Chettys), the Tamil form of *seṭṭhi* or merchant. Barbosa said (1516) that the 'Chatis' were 'very cunning in every kind of traffic in goods'.[34] A fourteenth-century work, *Haravilāsam*, by the Telugu poet Shrīnatha, is dedicated to a wealthy merchant of Nellore ('Samhavikrama Paṭṭana') called

Avachi Tippaya *Seṭṭhi*, who dealt in camphor, gold, elephants, horses, musk, pearls and fine silks from various countries, stretching from Hormuz to China. He had the Vijayanagara emperor along with other sovereigns (including the Bahmani sultan) as his customers.[35] From the Tumkur district of Karnataka comes an inscription of 1379 in which Harihara II is said to have granted ceremonial privileges and remissions of taxes on the precious articles that they dealt in to two *seṭṭi*s or merchants, Nāgi and Kāmi, who were brothers. In addition, they were given authority to adjudicate in disputes arising in the region.[36] Inscriptions similarly introduce us to merchants (*seṭṭi*s) who were appointed market-heads (*paṭṭana-svāmi*), with land grants attached, to manage marts and fairs.[37]

The authority enjoyed by the local groups of merchants sometimes enabled them to monopolize certain lines of trade in different localities. Such an attempt apparently led to a dispute between merchant groups belonging to two adjacent localities within the Udupi district, resulting in a detailed settlement recorded in an inscription of 1430. While allowing the right to trade in various commodities to merchants of both groups, 'the right of trading in cotton cloth' was still kept confined to one group alone.[38] Clearly, the general imperial policy of free trade was liable to be modified in different localities under local mercantile influences.

The manufactures and commerce carried on in the Vijayanagara empire provided an important source of revenue to the state. We have just seen that the annual tax imposed on a loom worked in a market was as high as three pagodas, which, going by the pagoda's value in the early seventeenth century and wages then prevailing, could have amounted to three times an ordinary labourer's monthly wage. But here *varaha*, though specifically mentioned in the text, might be intended for *panam*, the fractional piece.[39] This would accord with the range of tax rates per loom prevailing in Tamil Nadu during the Vijayanagara period.[40] Tax rates on other artisans are not furnished with anywhere near the same abundance.

Taxes were levied also on goods that entered any market. According to an inscription of 1378 from the Kolar District, the proceeds of the tax so levied were divisible into four equal shares, one for government, the others each for the market-owner, for the leading ('five') *seṭṭhis*, and for the headmen (*mīṇḍa-guḍḍa*s).[41] According to an order of 1390, all imported articles unloaded at the port of Mōtupalli were to pay a duty of 5 (per cent?), two-thirds going to the king and a third to the governor, Prince Dēvarāya.[42] Goods were again subject to tax when they entered the city of Vijayanagara. Nuniz tells us that upon entry, three 'vintees' were paid on each pack-bearing ox. A total of 42,000 pagodas was collected (annually) from such duties in the New City (Nagalapura). The total collected in the older city (Vijayanagara) is not stated, but one gate alone is said to have been farmed out for 12,000 pagodas each year.[43]

If, then, the imperial system provided much of the demand on which so much artisanal production and commerce subsisted, the latter in turn also provided considerable revenue to the state, although its exact size cannot be established.

NOTES AND REFERENCES

1. Major, *India in the Fifteenth Century*, pp. 23–24; Barbosa, *Book of Duarte Barbosa*, I, pp. 200–02.
2. Sewell, *Forgotten Empire*, p. 247.
3. Cipolla, *Sixteenth and Seventeenth Centuries*, p. 42.

4. Sewell, *Forgotten Empire*, p. 277.
5. Major, *India in the Fifteenth Century*, p. 6. He calls the city 'Bizengalia'.
6. Ibid., p. 7.
7. Barbosa, *Book of Duarte Barbosa*, I, pp. 187–88.
8. Ibid., II, p. 221; also p. 202.
9. Sewell, *Forgotten Empire*, p. 369. These mines (Ganjikot, Munimadugu, Wajra-Karur and Lathavaram) are described in detail in the seventeenth century in an anonymous English report communicated by the Earl Marshal of England to the *Philosophical Transactions*, issued for the Royal Society, London, XII, No. 136, 25 June 1677, pp. 908–10.
10. Barbosa, *Book of Duarte Barbosa*, I, p. 200.
11. Sewell, *Forgotten Empire*, p. 369.
12. Major, *India in the Fifteenth Century*, p. 7; Barbosa, *Book of Duarte Barbosa*, II, pp. 116–17; 123–24.
13. Barbosa, *Book of Duarte Barbosa*, I, p. 191.
14. The statement about 'brass factory' is made by Freidman in his introduction to Goitein and Friedman, trs, *India Traders of the Middle Ages*, pp. 12–13. The documents on the basis of which this assertion is made are translated on pp. 637–38 (where, indeed, the translator calls it a 'bronze factory'), 644–46 ('bronze vessels'), 675–78.
15. Barbosa, *Book of Duarte Barbosa*, I, pp. 232–33.
16. Paes and Nuniz in Sewell, *Forgotten Empire*, pp. 267–68, 312–13.
17. Major, *India in the Fifteenth Century*, p. 25 (Abd-er-Razzak), 7 (Nicoló Conti).
18. Nuniz in Sewell, *Forgotten Empire*, p. 360.
19. 'Iṣāmī, *Futūḥu's Salāṭīn*, p. 134.
20. Shādīābādī, *Miftāhu'l Fuẓalā*, British Library, Or. 3299, ff. 262a-b, with illustration on f.262b.
21. Ramaswamy, *Textiles and Weavers*, p. 66, gives a quotation from the inscription which merely mentions the ratio of cotton yarn used in warp and weft in cloth to be woven by Muslim weavers. No reference is made to heddles and how they are to be lifted. Yet, on p. 126, referring to this inscription, she says that it 'does suggest a drawloom in which the heddles were lifted by a mechanical process rather than by hand'. Ramaswamy seems here to confound the heddles lifted by foot, once the pedals were introduced in the ordinary loom, with the heddles of the drawloom lifted by the draw-boy by pulling at ropes joined with them (hardly 'a mechanical process'!) in accordance with the requirements of the patterns being woven. The Tirupati inscription, in any case, offers no proof for the presence of either the pedals or the drawboy's ropes.
22. Ramaswamy, *Textiles and Weavers*, pp. 64–65.
23. Buchanan, *Journey*, II, p. 240. Admittedly, there can be other forms of fine cotton fabric with which *salli* may also be identified: *sālū* ('sallowes') and 'Salempores' are possibilities. However, Abu'l Faẓl's *Āīn-i Akbarī*, p. 108, lists both the *sāla* and the '*shīla* of the Deccan' separately in its list of prices of cotton fabrics; so *shīla* must be distinct from 'sallowes'. 'Salempore' is also unlikely, not being a variety of muslin, but an inferior quality of cloth (OED, s.v. 'Salempore').
24. Barbosa, *Book of Duarte Barbosa*, II, p. 132.
25. See remarks in Yule and Burnell, *Hobson-Jobson*, pp. 713–14 (s.v. *pintado*).
26. Barbosa, *Book of Duarte Barbosa*, II, pp. 153–54.
27. Ibid, I, pp. 206–07.
28. Ibid., translator's note on the same pages. Barros gives this description in the context of events taking place in 1526 at Cananore (Kannur), Kerala. The translator draws our attention to Marignolli (d. 1355) who, travelling to south India from China, refers to such an umbrella carried by Indians, called 'chatyr' (Yule and Cordier, *Cathay and the Way Thither*, III, p. 256).
29. Ritti and Gopal, *Inscriptions*, II, p. 290.
30. On pack-oxen, see Paes in Sewell, *Forgotten Empire*, pp. 231, 248; Nuniz, in Sewell, *Forgotten Empire*, pp. 347.
31. Taxes were levied on such head loads (Ritti and Gopal, *Inscriptions*, I (2), pp. 727–29, 746–47; I (4), pp. 1562–64). An agreement between two local groups of merchants of Udupi District made in 1430

speaks of sugar brought from the Ghats 'on loads and head-loads', presumably meaning, respectively, those carried by pack-oxen and by porters (I [4], pp. 1348–52).

32. See ibid., I(4), pp. 1550–51 (a *dharmasāla* and a well); and I (3), pp. 1027–30, and II, pp. 215–16 (sheds for supply of water).
33. Barbosa, *Book of Duarte Barbosa*, I, pp. 202. See also Paes in Sewell, *A Forgotten Empire*, p. 247.
34. Barbosa, *Book of Duarte Barbosa*, II, pp. 125–26.
35. Aiyangar, *Sources of Vijayanagar History*, p. 57.
36. Ritti and Gopal, *Inscriptions*, I(2), pp. 358–60.
37. Ibid., I(3), pp. 1047–48; I(4), pp. 1294–95.
38. Ibid., I(4), pp. 1348–52.
39. Ibid., II, p. 290. Ramaswamy, *Textiles and Weavers*, p. 91, in her table in fact takes the rate per loom as three *panam*s, without indicating that the original reads *varahara*.
40. See Y. Subbarayalu and P. Shanmugan, 'A Note on the Rates of Assessment under the Vijayanagar Government', in Karashima, ed., *Social-cultural Change*, pt 1, pp. 166–67. Also see table in Ramaswamy, *Textiles and Weavers*, pp. 87–91, which covers the whole of the Vijayanagara Empire.
41. Ritti and Gopal, *Inscriptions*, I (2), pp. 330–31.
42. Sastri and Venkataramanayya, *Further Sources*, II, pp. 44–45.
43. Nuniz in Sewell, *Forgotten Empire*, pp. 345–47.

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